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This five-year study gathered data on 174 prospective teachers through personality tests, self-evaluation forms, and sound films of student teaching behavior, and examined the effects of three kinds of psychological feedback on teacher preparation, personality, and behavior. Subjects were divided into four groups--one for control and three for feedback treatment, which involved minimally one or more personal interviews with a psychologist (Assessment Feedback). The first feedback group received only Assessment Feedback; the second, in addition to receiving Assessment Feedback, was permitted to view the sound films (Behavior Feedback); and the third, after receiving Behavior Feedback, was placed in student teaching situations judged maximally facilitating by observers. In general, students with feedback evidenced more self-confidence, classroom ease, and positive attitudes toward observation procedures. In regard to two propositions about feedback (students would become more receptive to pupil feedback and would increase characteristics related to effective teaching), changes were not observed between different treatment groups but rather between the beginning and end of preparation and between polled experimental and control subjects. Striking differences between elementary and secondary education majors were recorded. (A chapter on the related Mental Health in Teacher Education Project, 13 appendixes of measurement instruments, and a 45-item bibliography are included.) (LP)

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Final Report

Project No. 5-0811
Grant No. OE 3-10-032

EFFECTS OF PERSONALIZED FEEDBACK DURING TEACHER PREPARATION ON TEACHER PERSONALITY AND TEACHING BEHAVIOR

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To all of them, to the young teachers who have generously given us permission to tell some part of their story and to the production staff headed by Hilton Pankratz and Robert Plunkett, we acknowledge a great debt.

PREFACE

A report that relatively brief personal contacts can produce changes in both personality and behavior should be accepted with reservations and perhaps with doubt. This is such a report and we have such reservations. We have attempted to specify them in what follows. Changes in persons did, however, occur. We do not know yet what aspects of these brief contacts produced the changes observed, nor do we know what other unlooked-for and unmeasured changes occurred which might support, ameliorate or negate our conclusions about these changes. Our best efforts are now being devoted to answering these new questions. We are grateful for new support from the U. S. Office of Education under R&D Grant No. 6-10-108 to continue analyses of these data. Examples of analyses being performed under this new grant are included in the final section of Chapter VIII of this report.

Nevertheless, even as they stand, these findings may have implications, not just for teacher education, but for undergraduate and graduate education generally. If events during this year of 1968 have any clear message for educators, it is a demand for confrontation between those who teach and those who are taught. We are not able to say now as researchers whether the kind of personalization described here fully meets this need. At the time that this study, essentially a study of the effects of confrontation, was conceived, we estimated, correctly we now feel, the depth of the need. We did not, however, anticipate the abrasive quality of the demands which have since been made on the national scale. Nor did we incorporate into the study operational measures to discover directly how well personalization meets the need. We did not, for example, count the number of experimental and control subjects who joined student activist organizations, nor how many propose to work within the existing system and how many oppose the system, per se.

Perhaps the reader can draw some conclusions from the data even as it now stands. We propose to help interested readers by making available additional information through publications now in preparation: case studies detailing the process of getting through undergraduate education; case studies documenting the experiences which lead a young person to teach or to leave teaching; follow-up studies of young teachers; detailed descriptions of both the procedures used in this study and new procedures suggested by our relationships with these teachers.

As is often pointed out to us, personalization of education and confrontation between teachers and taught are needed now, not next year. As persons we agree. As persons we suggest some immediate remedies consistent with our data: the willingness to listen to teachers in preparation and to all students, to question more and lecture less; systematic search to discover the concerns of students; educational experiences calculated to resolve concerns of students, educators and administrators; solicited feedback about one's own impact on others; a posture which allows both teachers and students the luxury of being human.

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CHAPTER I. THE PROBLEM

In the five years since 1962, and especially since 1966, the depersonalization of both undergraduate and graduate education in American colleges and universities has become an issue on which national attention is focused. The layman's interest is in what is euphemistically called "student unrest." But there are deeper, more complex issues embedded in our place in history, in our culture and in the dearth of relevant information about education generally.

In teacher education as well as undergraduate education as a whole, an increasing trickle of critical comment decries past lack of concern with the teacher as an individual and with the teacher's effects on the actual responses, both cognitive and affective, of American students.

In 1955, when this series of investigations was begun by Carson McGuire and Robert F. Peck, the need for research in undergraduate education generally was not so well recognized. When such research was undertaken, it was rarely related to the gathering momentum of student dissatisfaction. Even as sophisticated an observer of the college scene as Nevitt Sanford says that in 1962, "It never occurred to me that students would organize protests against the kind of education they were receiving" (Sanford, 1967, p. xiii).

In undergraduate teacher education, there was in 1955 little solid foundation for beginning such study. Formal hypothesis testing was not justified since there was neither a sufficient body of empirical observations nor a single relevant, defensible, heuristic theoretical framework.

Classical psychological theoretical positions and models were derived from settings, observations or disciplines different from the classroom (statistics, psychopathology, administrative behavior, adult group dynamics and animal laboratories). Much of the research in teacher education which did exist was hampered by lack of methodological tools and design inadequacies. Turner and Fattu (1960) concluded after reviewing the literature, that teacher education research was back where it started, and as late as 1962 Sarason called teacher education "an unstudied problem" (Sarason, 1962). Even now Medley describes research in teaching as still Baconian.

> Studies of teacher behavior in natural settings should receive the highest priority . . . We do not know enough yet about the dimensions of the teaching act to be sure, when we plan an experiment, that we are not neglecting or controlling out the most important variables. (Medley, 1967, p. 2).

The need for empirically oriented research in teacher education was nevertheless apparent to educators and to those psychologists who were in close contact with teachers and prospective teachers.

First, even findings and insights with "consensual" validity were difficult to disseminate. While "discovering" and demonstrating new teaching methods in laboratory schools and universities was almost a professional obsession, there was many a slip 'twixt the cup and the lip. No one knew how to help or to change the teacher herself so that the methods were really "adopted."

Second, while educators were trying to shoulder increasing responsibility for mental health in the classroom (Joint Commission, 1961), it was simultaneously becoming increasingly apparent that teachers could be given information, for example, about child development, but there was little evidence about the impact of such information on either the teacher's interaction with the student or student change.

Third, teachers and prospective teachers were dissatisfied. They repeatedly said they wanted more "realistic" preparation, usually preparation which would help them deal with their own individual needs, as they perceived these needs. Too, prospective teachers have been lambasted as "Uriah Heeps" (Schwartz, 1967) for their failure to face reality. The negative flavor of all these comments, and of the public's attitude toward "Education," was reflected in actions of state legislatures. Legislatures pruned professional course work in favor of more academic work, usually for lack of any more defensible alternative.

intensified by cyclical international tensions, such negative and ambivalent attitudes focused an international, as well as a national, spotlight on teachers' behaviors.

Fourth, an explosion of knowledge as well as public concern about it complicated the already complex teaching task. Educators know well the implications of the Chinese curse: "May your children live in a time of historical change."

There was then both a vacuum in knowledge and an urgent need for such knowledge, knowledge about teachers, teaching behavior and teacher education.

To make some beginning on the problem, Carson McGuire and Robert F. Peck began to experiment with ways of improving both the self-insight and social-insight of young teachers. The Hogg Foundation for Mental Health made a three-year grant (1955-1958), Mental Health in Education. In 1958, the National Institute of Mental Health provided funds to support this work on an expanded scale with its grant for a demonstration program called Mental Health in Teacher Education.

Obviously this was a difficult and complex task which had not yet been mastered even after half a century of research. Only now, more than ten years later, in this and other research efforts, are indications emerging about how teacher education programs can meet the vast range of problems of different teachers, in different situations with different tasks.

The starting place chosen in 1955 was the prospective teacher herself, with initial emphasis on the affective components of teaching and teacher education.

The crucial role of affect or emotion in learning seems well documented in research with adults and children as well as laboratory animals. Rats frustrated with insoluble problems still do not learn even when the problems become soluble (Maier, 1949). Adults in conflict are in the words of Dollard and Miller "stupid," i.e. they are likely to behave inappropriately (Dollard and Miller, 1950). In commenting on "neurotic manifestations" Bruner says, "They did not operate in the processes of perceiving or thinking *per se* so much as in the way they prevented these processes from running their course" (Bruner, 1966, p. 3). It is "the distinction one might make between playing tennis on the one hand and fighting like fury to stay off the court altogether on the other."

Not only does affect influence cognition, but feelings and emotions obviously are aroused by cognitive awareness of events and situations. If we extend this to the classroom, it is apparent that the teacher must cope, knowingly or not, not only with the effects of feelings upon learning but with the effects of learning on feelings.

Sanford cogently argues for the intricate interactions of the cognitive and the emotional or characterological, attempting to:

> ...lay to rest the false and troublesome dichotomy between the 'intellective' which is often said to be the sole concern of educators, and the 'nonintellective,' i.e. the rest of the personality, which is said to be the province of psychiatry or mental hygiene (Sanford, 1967, p. xvi).

Not only is affect little considered in teacher preparation, but, despite its importance, it is rarely taken into account in the public school classroom. Menninger says,

> What has often been omitted, perhaps often considered irrelevant, has been consideration of the feelings which exist in the teaching-learning situation. (They) profoundly affect how much and what kind of information (the pupil) absorbs. The teacher has feelings, too . . . All these and other feelings may significantly alter her effectiveness as a teacher, and the satisfactions she receives or does not receive, from teaching itself (Menninger, 1967,,p. 1).

In one review of the literature, Edwards (1967) points out how much research effort is devoted to understanding the intellectual development of children and how little is devoted to that part of their development that will largely steer their course through life. "Why the paucity of research?" he asks.

> Obviously a large part of the answer is that it would involve teacher-researchers who are sensitive to their own and their students' emotion. There has been an unspoken taboo on such research and ... teacher training programs are doing little to break it ... but it appears we are now about ready to take the giant step (p. 102).

Acknowledging the dangers and taboos, the MHTE project attempted ten years before these statements were made to take the "giant step."

On the basis of observations, primarily clinical, in this early study, a clearer picture began to emerge of prospective teachers' needs and perceptions of their preparation, particularly of their feelings and their covert experiencing as teachers and as human beings. Certain procedures were devised which seemed fruitful as instruments for collecting data about teachers, teaching and the relationships of teaching to pupil experiencing. These data-gathering procedures however might themselves have effects on subjects. Consequently, under a further grant, USOE 3-10-032, hereafter referred to as the PEB Study, these procedures were systematically applied to randomly selected groups of prospective teachers and systematically denied other such groups to discover what effects the procedures have on teachers in preparation.

This is principally a report of this latest effort (PEB Study) to study teacher personality; teacher education, (the effects of three procedures derived from the NIMH project experience), and teaching behavior (filmed sequences of actual classrooms).

One objective of this latest study was to accumulate a unique body of observations about prospective teachers, their teaching situations, teaching behavior and teacher-pupil interactions.

A second objective was to discover the effects on elementary and secondary undergraduates of three kinds of psychological feedback which were calculated to personalize teacher preparation and which might produce changes in personality and behavior.

These three feedback procedures or treatments were:

1. Assessment feedback: This was one or more individual therapy-type contacts between a prospective teacher and a psychotherapeutically oriented psychologist at the beginning of the teacher preparation program. One objective was to share with each teacher interpretations of his psychological tests. Although the teacher sometimes preferred to discuss subjects other than the tests, the psychologist always had the tests available to him before these conferences and could respond in terms of his knowledge of the teacher's responses to both structured and projective instruments. Consequently, this treatment was called AF (for assessment feedback).

2. Behavior feedback: This was one individual therapy-type contact of a prospective teacher with a psychologist and a university curriculum supervisor when the prospective teacher saw a sound film of herself teaching. This treatment was called BF (for behavior feedback).

3. Situation feedback: On the basis of previous AF, BF and other experience with the prospective teacher during at least one semester, placement in student teaching was planned, usually in conference with the prospective teacher. Ideally,

the teacher was placed in a student-teaching situation estimated to be maximally facilitating. When the maximally facilitating ideal was not achieved, the teacher had opportunities to explore her interaction in the situation with a counseling psychologist. This treatment was called SF (for situation feedback).

The specific hypotheses tested are discussed in Chapter III, pages 47-48. The criterion variable areas were: (1) teacher personality including attitudes and concerns, assessed by scores derived from coding of pre and post paper and pencil tests; (2) teaching behavior, assessed by coding of one second intervals of sound films of teacher-pupil interaction; (3) pupil behavior assessed by film coding and (4) teacher self report, assessed by coding post treatment self-evaluations and case notes from depth, post interviews.

This report will include:

1. A brief summary of the work between 1959 and 1962 which preceded the principal investigation being reported here. Emphasis in this summary is given to those findings from this earlier study which are relevant to the present investigation.

2. General research strategies.

3. Questions, propositions and criteria.

4. Design of the study.

5. The nature of the treatments as they were administered.

6. Effects of these treatments.

7. Discussion of findings related to initial propositions.

8. Discussion of the contributions and limitations of the study.

CHAPTER II. BACKGROUND

MENTAL HEALTH IN TEACHER EDUCATION PROJECT 1956-1963: RELEVANCE TO THE PEB STUDY (1962-1967)

This NIMH study was exploratory in nature but several propositions underlay this work. One was that openness to experience is a trainable characteristic. Drawing on both insights from psychotherapy and experience with the assessment and training of business executives, R.F. Peck and O.H. Bown introduced the technique of assessment-feedback counseling. The results of individual personal assessment were used as the point of departure for self-exploratory sessions with student teachers. The assumption was that increased self-knowledge, acquired in a supportive, constructive atmosphere, would induce a persisting tendency to be more alert to one's own actions and their consequences. A corollary premise was that such self-knowledge would lead to more realistic self-assurance and an augmented sense of self-worth.

The ultimate, practical point of these exploratory trials involved a second assumption: that openness to experience is a generalizing characteristic. Alert, healthily-toned acceptance of the facts of a teacher's own behavior, it was felt, would induce more alert recognition and more sympathetic understanding of his pupils' actions and feelings.

A third set of propositions was also at issue. It was assumed that the style of the feedback counseling would induce increasing autonomy in the student teacher: more willingness to assume responsibility, more initiative and growing skill and discriminatory judgment in making independent analyses and independent decisions. This was one way, it seemed, to prepare teachers who would spontaneously encourage just such autonomy of feeling and judgment in their pupils.

In the gathering of data, the NIMH Study attempted to take into account both awareness and unawareness; activities and contents; small and large units of experience and behavior; nomological nets and idiographic approaches; qualitative descriptions and quantification; intellect and emotion; cross-sectional approaches as well as changes over time; enduring aspects as well as factors making for change. In contacts with prospective teachers, however, each individual was recognized as perceiving himself as "all of a piece" even though group attributes and different facets of individual behavior were measured.

As few a priori assumptions as possible were made about what constitutes "effective" teaching or what in teacher preparation will bring this about, i.e. about what is "good" for teachers. Consensual norms, such as those about cruelty and the like, were of course implicit, but most assumptions were allowed to emerge through painstakingly detailed records repeatedly reviewed by skilled clinicians rather than by armchair speculation.

Consequently, an attempt was made to gather as wide a range of data as possible with relatively little selectivity at the start. The specific premises necessary and the administrative decisions made to implement them and to select data gathering procedures are described elsewhere (Fuller, Pilgrim and Freeland, 1967).

Summarized briefly, the basic premises were:

1. The task of the teacher is to maximize experiential learning, i.e. learning which makes some difference in present experiencing of students.

2. Teachers teach more than intellectual content, so what teachers _are_ may be important. Changing the teaching may involve changing the teacher.[1]

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[1] A different and possibly defensible position is that different teaching objectives can be handled by different and appropriate _strategies_. Hilda Taba for example says "If teaching is addressed to multiple behavioral objectives, the behaviors implied by these objectives must be differentiated and appropriate strategies differentiated and planned. For example, attitudes cannot be 'taught' in the same sense that one teaches geographic principles or yet map reading skills" (Taba, 1966, p. 22). Her findings, nevertheless, that differences among individual teachers obscure the effects of strategies, support the position that teacher personality may be an important component of the strategy itself, e.g. of how the strategy is perceived by pupils. Using a different criterion, Kounin (1967) concludes that "techniques of handling misbehavior are not very significant dimensions of classroom management ... Two highly correlated prevailing variables (degree of motivation to learn the subject and liking the teacher) _did_ predict how students reacted to discipline events." When a second study reversed this

3. Psychological assessment may facilitate quicker and deeper understanding of teachers as individuals.

4. Teachers can change as persons.

5. Therapeutic skills and insights may help facilitate changes in teachers as persons.

The administrative decisions based on these premises, which attempted to remedy some defects of previous research, were briefly:

1. The ecology was allowed to vary naturally at the start.

2. Therapists were educated to situational, i.e. school, problems.

3. Data was gathered on all participants: faculty, researchers, therapists; on situations and procedures and on subjects. This included psychological assessment of all hands and psychiatric consultation.

4. Dissemination was delayed until clinical observations could be conceptualized, reformulated, tested and evaluated.

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finding, a third study reported that "dimensions of the discipline technique that made a statistically significant difference were: clarity, firmness, punitiveness, affect intensity and task vs. approval focus." The implication in this and a number of other studies is that what the teacher communicates to pupils, often unconsciously, overrides techniques. As Jackson (1966) says, the trouble with a formulation of teaching as information-processing and decision making, is that the teacher's interactive behavior is "spontaneous" not programmed. See also Fowler and Soar (1967).

Data was gathered from three vantage points:

1. The first was the viewpoint of the teacher educator: the teacher preparation institution, the university supervisor, the public school supervising teacher (cooperating teacher) and all the professional persons involved in teacher preparation. This included not just assessment of subjects but also assessment of assessors.

2. The second was the viewpoint of the prospective teacher.

3. The third vantage point was that of an (ideally) omniscient observer. This was the viewpoint of the tape recorder, the typescript, the trained observer. When, at the end of this first exploratory period, 8mm. sound film became available, sound films were added for a few subjects and faculty.

Toward the end of the exploratory period, a fourth viewpoint, that of the pupil in the school, was added to the other three in the form of what came to be known as a Pupil Observation Survey Report (POSR).

The data which resulted included:

1. Projective and structured tests of prospective teachers revised frequently to increase the tests' acceptability to prospective teachers and their potential as economical means of gathering information.

2. Clinical evaluations of personality data.

3. Tape recordings and typescripts of unstructured interviews of prospective teachers with supervisors, psychologists and instructors.

4. Classroom observation records made at frequent intervals by trained observers including stenographic notes, tape recordings and typescripts.

5. Tape recordings and typescripts of weekly group counseling sessions over the student-teaching semester.

6. Supervisors' narrative accounts and grades of subjects; records of therapy sessions of supervisors and researchers themselves in psychiatric consultation; and tape recordings of professional conferences.

7. Life situation data: case notes, tape recordings, personal letters, newspaper clippings, greeting cards, announcements, notes from telephone calls and other records of a wide range of idosyncratic happenings and choices: marriages, deaths, induction into military service, weight loss and gain, conflicts, car pool preferences, parties, changes in residence, reassignment, job placement, etc.

In addition, subsamples of subjects were brought back after graduation for interviews, individually and in groups.

In all, nearly 3,000 prospective teachers were involved although all the data described was not gathered for all subjects.

Records were also kept of the varied experiences, situational and affective, of those who were gathering the data; administrators, psychologists, curriculum specialists, research assistants, etc. Whenever possible, feedback about their impact and the influence of the data gathering itself was solicited.

RESULTS OF EARLIER (MHTE) STUDY RELEVANT TO THIS (PEB) STUDY

Instruments

Peck, Veldman and Bown developed a diversified battery for assessing the personality characteristics of teachers.

Four of the instruments produced in the MHTE study were relatively economical in relation to the amount of information they yielded and were acceptable to prospective teachers. These are: the Peck Biographical Information Form, an information gathering device as well as a projective instrument; the Bown Self-Report Inventory, a quick-scoring, transparent opportunity for the teacher to call for help; the Peck-Veldman One-Word Sentence Completion Form, a free-response instrument amenable to computer analysis; and the Veldman Directed Imagination Test, a frank projective in which the subject is instructed to write four stories about teaching, each in four minutes or less. These instruments are described more fully in manuals available from the Research and Development Center for Teacher Education at The University of Texas.

Cards from the Thematic Apperception Test were selected

(1, 7GF, 2, 9GF, 6GF, 4, 12F, 19) for appropriateness to the population and hypothese and were administered as a paper and pencil test on slides to groups.

In 1962, an NIMH grant was obtained for basic research on a new kind of measurement, "Computer Analysis of Personality." To insure synergy, all these operations were combined into a unit known thereafter as the Personality Research Center of The University of Texas.

Course Content and Sequence

From the outset of the MHTE project in 1958, a large number of faculty members of the College of Education were engaged in revising the curricular content of the pre-service education program. Often, this was done in team planning, by professors from two or three departments.

Both the nature and the sequence of topics in the psychological area changed considerably. In 1957, emphasis was almost exclusively on test-theory and classical child development. By 1962, the content was an interdisciplinary approach describable as "Behavioral Science Foundations of Education." This content was both logically and operationally cross-linked with students' experiences in curriculum courses and in classroom participation and student teaching.

On the Curriculum and Instruction side, major revisions and realignments of student learning experiences were effected, with increased emphasis on the idiosyncratic needs of the student and of the particular school situation in which he was placed. Exploratory follow-up studies were conducted involving a sizeable number of graduates in their first teaching jobs.

Administratively, the University Council on Teacher Education introduced an innovation as a result of these studies. For the first time, a member of the psychology faculty was assigned to work as a member of the team supervising the final year of student teaching.

Therapist Orientation to Schools

As a result of MHTE involvement, a few psychotherapeutically oriented psychologists came into direct and continued contact with public schools. This contact influenced not only the PEB design (e.g. inclusion of psychological placement in the school as a treatment) but facilitated the acceptance of therapy by student teachers who felt the therapist understood what they were "really going through." Direct contact with schools also increased the probability that the therapist could differentiate between intra-psychic conflicts and reality-based conflicts. The development of a few school-knowledgeable therapists made possible the assessment feedback, behavior feedback and situation feedback treatments used in the subsequent PEB study.

Counseling-Oriented Procedures

A large variety of procedures was tried out in the MHTE Study and many discarded. Initial test interpretations during *student teaching* were abandoned, as were counseling-oriented student teaching seminars because, in the words of O.H. Bown, counseling during student teaching was like trying to "conduct psychotherapy while climbing Mount Everest."

Those procedures which survived the tests of acceptability by subjects and relative economy were:

1. Early test interpretations. These were conducted at the beginning of professional preparation, usually at the beginning of the junior year.

2. Crisis counseling. Prospective teachers could ask for counseling at any point in their preparation.

3. Feedback to supervisors. On the basis of test data (not confidential counseling contacts) supervisors and therapists worked out strategies for prospective teachers which considered the potentialities and limitations of both the student, the supervisor and the teaching situation.

4. Exit interviews. Using a general format for information to be secured, prospective teachers were interviewed at the end of their preparation by psychologists who had not participated either in their counseling or in their other professional preparation.

Bloodletting: The Consequences of Encouraging Personal Change

Change often involves pain and this occurred occasionally at all levels: in individual prospective teachers; in supervisors, psychologists, research staff; in cooperating teachers, school principals and school systems; in university faculty, university departments and colleges.

First, change involves behavior which is new, untried and often unsuccessful. Innovation involves the ability to tolerate failure and ambiguity, an ability notoriously under-developed in our success-oriented society. Failure involves painful practical consequences.

Second, failure in schools is particularly upsetting because children are involved.

Third, change involves administrative and financial consequences.

Openness to experience, presumably one consequence of therapeutically oriented treatments, makes apparent to the person those deficiencies or potentialities which he already has but which he may have distorted, rationalized or screened out. When, for example, student teachers realize children are bored with procedures or materials, they seek new materials. Cooperating teachers' established methods are challeneged; principals' bookrooms are threatened with obsolescence. Confrontation of an individual with his own unused potential can be upsetting too.

He must then either acknowledge his passivity or do something about it.

Most of all, defenses against change can be powerful. The taboos against research which involves teacher affect, of which Edwards (1967) writes, seem justified in the absence of safeguards such as limited focus, open communication, a climate of trust and individual freedom to resist.

Therapists involved in feedback conferences in the next study (that being reported here) attempted to maintain these important conditions in their contacts with prospective teachers. In order to discover at a later date whether these conditions had been maintained, not just by counselors but also by research staff, an "infinite regress strategy" (discussed in Chapter V) guided data gathering in the subsequent study.

College-Wide Screening Program

MHTE data showed a wide range of readiness among prospective teachers for the teaching task. Although in the MHTE project itself, no attempt was made to prevent potentially damaging teachers from entering teaching, MHTE observations did warrant a closer look at all prospective teachers. The range of personality patterns of prospective teachers as described by Peck (1960, 1962) probably includes a minority of disorganized or hostile young people who are potentially damaging to children and adolescents and who are unlikely to become less so over the usual teacher preparation program.

Consequently, in 1963, The University of Texas adopted a permanent, required, routine psychological screening procedure for all prospective teachers. This procedure involves psychological assessment and makes available individual counseling at the beginning of the professional education sequence. It also provides data on the entire population of prospective teachers. Although control groups are still required in designs testing the effects of specific treatments (to equate influences such as instructor and teaching situation), information about the whole population can provide useful normative data.

Identification of Classes of Relevant Variables

Extremely complex phenomena, like teaching, are not yet susceptible of precise description, but as a result of inspection of MHTE data, some gross groupings of potential influences on the behavior and experiencing of prospective teachers and groupings of variables which might influence observation of teaching and teachers were identified, albeit not yet precisely. These will be described separately: first, influences on the observation of teaching and, second, influences on the experiencing of teachers.

Influences on Observation of Teaching

The "Iceberg" Phenomenon. It became apparent that teacher preparation is truly like the proverbial iceberg. Most of the experience is not visible to even the most practiced eye.

This point is important not only in this report but is relevant to much research in teacher education. It is frequently reported that teacher behavior and pupil responses are not consistently related. This finding is probably due, not to some single "X" variable, but to many unobserved influences, possibly within the data-gathering situation itself.

Because it is important but subtle, some illustration seems warranted, this from a "feedback to the researcher" interview:

> This particular student teacher had participated in a counseling-oriented student teacher seminar. The seminar procedure was used to gather data about the concerns of student teachers and to help them. In this student teacher's seminar, eight student teachers met weekly with two experienced therapists who had guaranteed them confidentiality, who were familiar with their teaching situations and who would not at any point evaluate them or award grades. The two therapists (male and female) co-counseled the group and checked one another to be sure an accepting climate was maintained and to increase the probability that each student teacher would have at least one therapist to relate to.

Despite these atypical safeguards, the individuals within the group itself, their varying perceptions of one another and of the two therapists, severely edited what was available for observation. Student teacher X, for example, reported in a post-preparation interview that she had never brought up problems which student teacher Y could have reported back to their joint supervisor. "I wasn't going to give her the chance to play with _that_!"

In this and many other data-gathering situations, what was unobservable at the time determined in great part what was observed.

When stimulated recall procedures (Bloom, 1957) were used with films later, what teachers revealed that they had actually been doing at the time of the observation and filming, was often quite different from what even a sound film or an experienced observer could report. In one case, for example, a teacher appeared to be introducing math problems to the class. However, according to her report during the stimulated recall session, she was having, during the period filmed, a covert struggle with one boy who was daring her to remove him from the room (because of a previous ultimatum) in front of the camera.

Getzels and Jackson's comment (1960), which was quoted in the PEB proposal, is relevant:

> (The empirical) leap from observations to prediction omits two essential steps of systematic inquiry. It omits the precise description of the phenomena under study and the attempt, however conjectural, to conceptualize and understand the phenomena (p. 461).

Interaction of Observer with Observations. Counseling and psychiatric conferences with supervisors, cooperating teachers, recorders and counselors demonstrated that the "iceberg phenomenon" operated in observation of teaching as well as in teaching itself. Observers differed in the ranges they allowed themselves: one observer's highest "rating" was another's lowest. Observers differed in the phenomena they observed: some were sensitive to interpersonal behavior, others to content accuracy. Probably, observations were limited and distorted by the observer's urge to action (Anderson and Hunka, 1963) and involvement in the observed situation: e.g. cooperating teachers and supervisors screened out other aspects of the teaching if the class was out of control. Reliability was even influenced by the interpersonal relationships among observers. Hostility among observers could occur because of observers' covert perceptions of the purposes of the observations, their current relationships with the research project and many other covert experiences. Consequently some mechanical observation seemed to be required at least as a supplement to direct human observation. The method decided upon for subsequent studies was the then-new 8mm. sound filming.

Influences on Teachers and Teaching

Although Ryan's "information processing-information forwarding system model" was not available at the start of the MHTE study, the variables identified in the MHTE study can be subsumed under the classes of inputs described by Ryans: internal inputs, external inputs and feedback inputs. There were, in addition, interactions among these.

No assumptions were made about which inputs are modifiable. Essentially, it was assumed that all inputs may be modifiable even though procedures for accomplishing this are not available.

Internal Inputs

Personality.

A frequent observation made in counseling case notes was that the problems student teachers reported experiencing in their teaching seemed consistent with clinical assessments of pre-student teaching personality. It became possible, using free-response instruments clinically, to describe in counseling contacts with sophomores and juniors the problems they were likely to encounter in senior student teaching.

Not surprisingly, the problems which the prospective teachers themselves had revealed on their written tests, sometimes without realizing they had done so, were often the same problems about which they said in counseling they were concerned.

> From counselor's case notes of conferences with pre-student teacher: "I said she described others on her Sentence Completion Form as boorish, exhibitionistic, apathetic, insipid, proletarian, etc. She was horrified at this summary, seeing all the words together at one time. Has had hints other students think she is disdainful, petulant. Worries about getting a stupid cooperating teacher next year and a class of kids who won't like her."

These may have been "self-fulfilling prophecies," e.g. the prestige of the therapist may have influenced the student to agree that the predicted or implied problems had indeed appeared or were feared. Only a control group of course could answer the question, but two frequently observed phenomena mitigated the conclusion that only a self-fulfilling prophecy was being made.

First was the nearly universal response of subjects, accompanied by either fear or relief, that "You've been reading my mail." Psychologically speaking, the therapist had.

The second was the frequency of reports by supervisors, who consulted therapists with already existing problems involving student teachers, that the resemblance between the therapist's 'blind' predictions of teaching problems and the already existing problems was "spooky." This, of course, is one of the clinical phenomena which have furnished intermittent reinforcement to therapists for some time, but which needs controlled testing.

Personality, defined as this more or less permanent behavior potential of prospective teachers, seemed to be an important component of teacher experiencing and of teachers' classroom behavior. Peck (1960, 1962) described three sub-groups of prospective teachers: a relatively small, able, receptive group; a relatively small, inept, disorganized or habitually antagonistic group; and a large middle majority who supply most of our career teachers and who may need and want the most careful attention.

Peck related these and other hypothesized teacher characteristics to teaching behavior.

These tentatively offered relationships were intended as guidelines only and the subsequent PEB research was designed to allow personality configurations, teaching patterns or strategies and relationships between personality and teaching, to emerge from the data itself.

Fig. 1

Posited Relationships Between Teacher Characteristics and Teaching Behavior

Individual Characteristics	Teaching Behavior
A. Creatively intelligent autonomy	1. Stimulating, informed teaching 2. Creative flexibility
B. Conscience-ruled stability	3. Orderly, planned work 4. Self-controlled emotionality
C. Outgoing optimism	5. Generalized enthusiasm 6. Optimistic encouragement of children's work 7. Self-confident, poised behavior in the classroom
D. Kindly affection	8. Friendly, warm attitude toward children
E. Professional identification	9. Cooperative attitude toward other school personnel 10. Enthusiasm for communicating principles of subject matter 11. Concern for quality of the teaching-learning process 12. Commitment to teaching as a career

Attitudes. Clinical descriptions of prospective teachers by psychologists from test data on the one hand, and problems of prospective teachers observed by supervisors or reported by the teachers themselves on the other, coincided frequently in the areas of:

Attitudes toward authority (e.g. relationships with cooperating teachers, supervisors, principals)

Attitudes toward children (e.g. grade level preference, positive-negative responses to individual children, selective preferences for boys and girls)

Attitudes toward work (e.g. content adequacy, preparation for teaching, amount of participation, attendance)

Attitudes toward teaching (e.g. continuation in the program, persistence in teaching).

As will be seen from descriptions of the instruments used in the PEB study, these problem areas were specifically included in scorable scales on the Bown Self-Report Inventory to give teachers an open invitation to report them.

Concerns. David Page says that when children give wrong answers it is not so often that they are wrong as that they are answering another question and the job is to find out what question they are in fact answering (Bruner, 1966). Green (1964) points out the importance of changing students' reasons for their behavior rather than the behavior itself. Teachers' reasons for their behavior, their intentions, too, may need to be changed.

Teachers certainly need to concern themselves with students and with the kind of learning which is taking place, preferably understanding. Do they? If not, what concerns do they have? Do teacher preparation programs address themselves to prospective teachers' concerns? How can teachers be led to be concerned about students' understanding?

Gabriel's (1957) now classic study supports the notion that young in-service teachers are more concerned than experienced teachers with behavior problems of students and with evaluations of their own performance. Travers (1952) concluded that elementary student teachers were most concerned with discipline and with being liked by their pupils and that these concerns were not significantly different after student teaching.

In a retrospective study, Thompson (1963) found that student teachers remembered their most frequent concerns at the beginning of student teaching to have been their own subject matter adequacy and the expectations of the cooperating teacher. In addition, elementary majors recalled concern with what pupils would be like. At the end of student teaching, elementary majors were concerned about the problem of obtaining an honest opinion about their teaching from the cooperating teacher and the college supervisor. Secondary majors were most concerned about running out of material and having class time left over.

Observations made in the MHTE study indicated that it is first contact with the "real" teaching situation which precipitates concerns with the realities of teaching. This first contact is not necessarily that in formal preparation but might have occured earlier (as a camp counselor, Sunday school teacher, etc.). Until prospective teachers actually experienced some responsibility for teaching (not just observing others teach), they were likely to regard professional courses as irrelevant to them as persons. In short, before such contact, they had nebulous, generalized rather than specific, task-related concerns. The specificity of the prospective teachers' "worries" thus seemed a promising indication of her readiness to teach.

Consequently, the concerns of student teachers were studied. The procedures of this study are described elsewhere (Fuller et al, 1967). Briefly, statements in typescripts of counseling-oriented student teaching seminars and of different kinds of individual confidential interviews were coded according to topic, using an empirically derived coding system.

In contrast to personality assessments, which seemed, clinically at least, to be highly idiosyncratic, concerns of student teachers grouped themselves into definable stages which seemed developmental and even temporally sequential during student teaching. Table 1 shows frequencies of topics of each seminar over the student teaching semester summed for two groups.

It will be noted from this table that the findings of the

Table 1

Frequencies of Student Teachers' Statements by Topic of Concern
at 11 Time Intervals During Student Teaching
(N = 14 Student Teachers)

Time Intervals	Topic of Concern						
Chronological order of weekly sessions over the student teaching semester:	Master teachers, pupils, parents & school principals (1)	School situation (2)	Curriculum and grading of pupils	Discipline	Seminar research project & group members (3)	Attitudes toward self (4)	Pupils, pupil learning & use of psych. in the classroom
Week # 1	86*	13	53	10	66	20	54
2	40	167*	45	0	65	26	29
3	100	90	133*	0	37	46	32
4	16	80	46	128*	33	12	71
5	17	54	117	174*	16	37	78
6	17	32	82	108*	6	2	103
7	25	57	21	21	9	30	254*
8	20	28	38	0	45	97	209*
9	18	68	122*	76	10	80	31
10	24	3	58	1	10	80	160*
Week #11	19	2	9	0	19	0	186*

*The most frequent concern each week

Note:
(1) Includes master teachers and pupils' parents.
(2) Includes school plant, facilities, rules, policies.
(3) Includes group members, seminar itself.

three previous studies were supported and extended. Concerns about self and self-protection appeared early in the student teaching semester in the form of concerns about the teacher's own position in the power structure of the school; class control; content adequacy; coping with deviant behavior; evaluations by supervisors, parents and children.

Concerns about others, about students and what students were learning appeared later, and seemed more frequent than early concerns among student teachers who were satisfied with their own teaching performance.

Subsequent observations and reformulation of discrete topics produced five concerns "stages" with their accompanying teaching tasks:

Stage 1. Question: Where do I stand?

Tasks: Abilities to explore the physical plant freely; to understand school policies; to estimate amount of support which can be expected from principal; to build working relationships with cooperating teachers; to utilize successfully audio-visual aids and other school resources; to determine limits of responsibility and authority in the school.

Stage 2. Question: How adequate am I?

Tasks: Abilities to understand and explain content; to answer questions; to admit ignorance; to change strategies; to control class; to make "eye contact"; to maintain acceptable noise level.

Stage 3. Question: How do you think I'm doing?

Tasks: Abilities to ask for evaluation; to partial out the biases of evaluators; to evolve short and long-term goals; to devise measures to estimate the effects of the teaching.

Stage 4. Question: Why do they do that?

Tasks: Abilities to establish behavior norms; to interpret tests and other data about individuals; to cope with deviant behavior.

Stage 5. Question: How are my students doing?

Tasks: To select content, procedures; to utilize feedback from pupils; to plan; to question; to wait; to measure learning; to listen; to discard.

A sixth concerns stage, "How does what I am influence what they learn?" was not delineated until the close of the next (PEB) study.

In light of previous work by Gabriel, Travers and Thompson, it seems likely that a hierarchy of concerns, or tasks, to which teachers address themselves does actually exist. If so, one desirable outcome of teacher preparation may be a higher level of teacher concerns.

Prior Experiences with Teaching. Another input variable was prior contact with teaching. "Para-teaching" experiences, such as church school teaching, substituting (a surprisingly common experience of small-town high school girls is "substituting" for regular teachers in the primary grades), camp counseling or having many younger siblings were often named as influences on motivation to teach. Also mentioned both positively and negatively were educator parents, favorite school and college teachers and membership in "junior" teacher organizations such as Future Teachers Associations. Data surely needs to be gathered on such prior experiences since they may influence outcomes of preparation programs.

Scholarly Interests. A desire to interest students in a favorite content area or to "keep on learning myself," were sometimes mentioned as influences on their motivation to teach.

External Pressures. Pressures from outside often influenced motivation to teach, e.g.: parents' insistence on some financial "insurance" or saleable skill combined with lack of information about vocational opportunities in liberal arts areas, "teaching is the only thing I know about," "my friends are doing it." These, of course, were sometimes related to personality characteristics such as autonomy, dependency or hostility.

External Inputs (Teaching Situation)

Although the teaching situation has been little studied as it affects the student teacher as a person, external inputs were found to be crucial in laboratory experiences--so crucial, in fact, that they sometimes outweighed the apparent influence of internal inputs. The same student teachers behaved differently and reported different problems and concerns in different situations: different schools, with different cooperating teachers or with different pupils.

Most students attributed their negatively evaluated behavior to the situations in which they taught, particularly to their relationships with their cooperating teachers and the characteristics of their pupils, with emphasis on the former. How much of this was projection or outright fabrication was difficult to determine, but the following seemed possible sources of influence:

Characteristics of the cooperating teacher

Characteristics of pupils (e.g. primary, intermediate, junior high, senior high; social class; ability to learn; deviant behavior; attitudes toward student teachers as students and/or as teachers).

Peer relationships (e.g. other student teachers; competition for approval of supervisors; heterosexual and homosexual relationships)

Time pressures (e.g. academic demands; self-support; marriage and housekeeping duties; social pressures)

Characteristics of the teacher preparation program (e.g. grades; faculty contact; perceived relevance of course content to teaching tasks; requirements; climate--personalization vs. impersonalization)

Characteristics of the school (e.g. power structure; congruence between real and verbalized goals or lack of it; availability of material and equipment;

acceptance of student teachers by the administration; value of the school as a "reference" for a later job; participation of parents, or lack of it).

These external inputs seemed to interact differentially with internal inputs. For example, assignment to teach deprived children seemed to have opposite effects on attitudes toward teaching of "missionary" teachers and scholarly types.

Feedback Inputs

Like the teachers in Thompson's study, MHTE teachers almost unanimously were concerned with getting feedback about their teaching. When it was suggested that they might simply listen for it, or ask for it from their pupils, cooperating teachers or supervisors, they often answered, like Lucy in the Peanuts comic strip, "Besides that, I mean."

What they wanted was feedback based on their teaching behavior as they experienced and perceived it, rather than as it was interpreted, misinterpreted or misunderstood (as they saw it).

When feedback is thus defined as information about the self and the situation which is personally relevant to the individual, feedback necessarily involves human observers and human responders. All observations are, eventually, human observations. Even mechanical observations are human since hardware is made by humans with human selectivity built into it and frequently operated by humans with their additional selectivity. Feedback then involves the observer, the respondent and the devices. Some consideration must be given to:

Characteristics of the observer (e.g. personality, biases,
  urges to action)
Characteristics of the observation situation
Attributes of the observation devices or procedures
Characteristics of respondents
Interactions of observers, actors and procedures.

Consequently, observations about observers are important for two reasons: (1) To improve "truth" of the data because observer bias can distort observations. (This is discussed above under "Influences on Observation of Teaching"). (2) The method of observation or biases of the observer influence the teacher's perception of the accuracy of the data fed back, i.e. the observer's characteristics influence the feedback treatment itself.

Interaction of Inputs in Feedback Treatments

Let us extend this conceptualization to the administration of feedback treatments to teachers.

If we are to give teachers the kind of personally relevant feedback they say they can accept, such feedback must consider internal, external and feedback variables, here teacher variables, situation variables, observation variables and feedback variables. The psychologist might say (figuratively), "Given the kind of person you were at the moment, the situation in which you were teaching, the characteristics of the observation, and this feedback situation including my characteristics, what now seemed to be happening then." To put it another way, "What you appeared to me to do is related to you, to the class, to the way you were observed and to me." This conception of feedback can be extended to teacher-pupil communication in the classroom. The teacher's response to the pupil is influenced by the teacher's characteristics, the pupil's characteristics, the teaching situation and the observation situation (e.g. grading an assignment vs. face-to-face conversation). Feedback to pupils from teachers may need to resemble the kind of feedback teachers themselves find acceptable. The teacher may say (figuratively), "What you appeared to me to do is related to you, to your situation, to my opportunities to observe and to me." Thus conceptualized, feedback is interaction rather than merely information. It is what one person does back to another under a given set of circumstances.

If we extend this conception to research in education, researchers as well as teachers need to be interested in the responses they elicit from others, to be concerned with the interaction rather than only with their own experiencing or observations.

CHAPTER III. QUESTIONS AND PROPOSITIONS

The primarily clinical observations made in the early MHTE study supported the initial notion that the covert experiencing of teachers (and perhaps of their students) was an important component of teaching behavior. In addition, test interpretations indicated that the teacher herself often did not know why she responded as she did, to students for example. Teachers often had an "ah hah" reaction to their own or the psychologist's insights: "Yes, that was why I did it but I didn't realize it at the time." Consequently, what the teacher could not report, even if she would, as well as what she could report if she would, needed to be known.

We reasoned that some teacher experiencing is public, i.e., known both to the student and to the teacher herself; some is private, i.e., known to the teacher but not to the student; some is probably incongruent, i.e., known to the student but not to the teacher; and some is hidden from both.

Both the student and the teacher, for example, know that the teacher has red hair. Only the teacher knows how much cosmetic assistance her hair has received. The students may know she tosses it around, but the teacher may not know either that she tosses it or that the students observe that she does. Neither the students nor the teacher may know why she dyes or tosses.

This can be represented diagrammatically:[2]

		Self	
		Known	Unknown
Others	Known	public	incongruent
	Unknown	private	unconscious

Examples of all four areas are common in teaching tasks. The teacher's incongruence (for example, areas in which the kids are "on" to her foibles) is a frequent source of discipline problems. A parent-teacher conference is a simpler illustration of public, private, incongruent and unconscious functioning.

> Mrs. Smith, Jenny's mother, told Mr. Volk, Jenny's teacher, that she wanted Jenny to do her best but did not put pressure on her beyond her capacities. (Both Mrs. Smith and Mr. Volk recognized that this was true; therefore, this was publicly known to both of them.) Privately, Mrs. Smith hoped she could report to her husband that Jenny did less foot-dragging at school than she did at home in order that Mr. Smith would not be so hard on Jenny. (This was private, known to Mrs. Smith but not to Mr. Volk.) Mrs. Smith did not know that Mr. Volk saw that she was tense and not paying full attention to his suggestions about outside activities for Jenny. (Her tenseness and inattention were apparent to Mr. Volk, but Mrs. Smith was not aware of them.) Neither of them knew that Mrs. Smith felt as though she and Jenny were almost one person and that Mrs. Smith was tense because whatever was said about Jenny might as well be said about her.

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[2] Romano (1960), Luft (1961) and Chance (1939) contributed to the representation.

Since this teacher is a person, he too is both aware and unaware of some of his experiencing.

> Mr. Volk told Mrs. Smith that her daughter was one of the quietest children in the class. (Privately, he was anticipating the next parent conference about a child who might have to be retained.) Mrs. Smith realized Mr. Volk didn't know Jenny very well because he called her Jinny, probably because her name on the school records was Virginia. However, she didn't mention it and slurred the e when she mentioned Jenny's name. Neither of them realized one reason Mr. Volk was hurrying through the conference was that he didn't want to overcommit himself to Mrs. Smith. He regarded her, without actually thinking about it, as an overprotective mother.

Both Mrs. Smith and Mr. Volk are participating in a complex interaction. Its complexity can be compounded when others are involved; e.g., if Mr. Smith were present.

If such covert, incongruent and unconscious experiencing does influence teacher behavior, data about such experiencing must be secured and studied. There are, however, both ethical and practical problems in gathering such data. Practical problems revolve mostly about the willingness of teachers to be observed; the establishment of a climate of trust which will make it possible for them to share their private experiencing; and devising instruments and procedures which will yield information teachers cannot give even if they wish to do so.

There are ethical problems concerned with confidentiality, invasion of privacy and the effects of instruments and procedures on the subjects involved in such study. These problems are discussed in some detail elsewhere (Winn, 1967). In addition, the investigators felt an obligation to give teachers participating in the study some help in return for their participation.

The procedure which seemed to fit these requirements best was the feedback-interaction procedure: sharing with as many teacher participants as possible the insights produced by the data gathered from them and denying services to as few as possible. We think of this not merely as "personalization of education" but also as "personalization of research," i.e., as an ethical framework in which safeguards can be built into those research efforts which require potentially upsetting data-gathering techniques.

There were then two immediate questions to which answers were sought:

1. Do "personalized" feedback treatments make it possible to gather data from non-volunteering prospective teachers in areas generally perceived to be relatively stressful and anxiety arousing: covert concerns, unconscious functioning, filming of initial teaching?

2. What are the effects on these pre-service teachers of such feedback? Specifically,

   a. Is feedback positively valued by such teachers?

   b. Did feedback "help" the teachers? i.e. are the

changes which occur in behavior and personality
as measured by films and psychological instruments
in the direction other studies indicate are toward
"superior" teaching performance?

This report is concerned primarily with answers to these two question. There were however five long-range questions being asked, anticipating that it would be possible to gather a unique body of data, that the effects of feedback would be positively perceived by the teachers and that these effects would be "beneficial." These long-range questions are to be answered later from the data in the present study. The questions are:

1. What personality configurations of prospective teachers can be identified?

2. What teaching "styles" of prospective teachers can be identified?

3. How do situations influence teaching styles?

4. What personality configuarations, teaching styles and teaching situations are related to what pupil responses?

5. What "in" the feedback given to teachers influences their teaching behavior and their pupils' learning?

Propositions About Effects of Feedback Treatments

At the beginning of the last year of the MHTE study, a tentative set of propositions had been formulated and incorporated into a projected design for the PEB study. The relationships which were then hypothesized between individual teacher characteristics and teaching behavior were shown in Fig. 1, page 30.

During the "tooling up" first year of the PEB study, before the first subjects were selected, some modifications in propositions were possible. It became possible for example to define some characteristics in terms of filmed behavior. Whereas only tape recordings of classrooms seemed feasible initially, procedures and relationships with schools were developed later which made possible sound filming in classrooms. Whereas placement feedback was initially limited to psychological feedback to supervisors, it became possible to secure the cooperation of school administration to make actual assignments of student teachers to individually selected classrooms. Thus it became possible to test additional propositions involving visual recording and situation placement.

The propositions then posed were:

1. Personalized feedback treatments will increase willingness to be observed. Operationally, subjects who receive feedback will be more favorable to the research operation as a whole and will report that testing and filming helped them more than will subjects on whom similar data is gathered but

who do not receive feedback about it.

2. Personalized feedback treatments will increase teachers' receptivity to experience, specifically, openness to feedback from pupils. Initially, openness to feedback was defined only as proportions of teacher and student talk, (the less teacher talk, the more openness to feedback) but it became possible through later development of coding systems for films, as will be seen in Chapter IV, to define openness to feedback in terms of more finely differentiated aspects of the teacher pupil interaction, i.e., film categories.

3. After feedback, teachers will increase in individual characteristics posited to be related to desirable teaching behaviors (Fig. 1): creatively intelligent autonomy, conscience ruled stability, outgoing optimism, kindly affection and professional identification. Specifically it was hypothesized that feedback teachers will be more imaginative and stimulating, more organized, more optimistic, more confident, more affectionate (warmer) and will have stronger professional identification, i.e., perception of self as a teacher.

CHAPTER IV: CRITERIA AND INSTRUMENTS

The criteria for the study were teacher personality and attitudes, teaching behavior, pupil behavior and post graduation professional identification.

Teacher Personality and Attitude

Bown Self-Report Inventory (Appendix A)

The Bown Self-Report Inventory (SRI) was first devised in 1958. Since then, it has undergone a number of revisions. It now consists of 48 items, which provide scores on eight factorially distinct areas of the phenomenal world (Bown, 1961). The inventory yields the following attitude scores: Self, Others, Children, Authority, Work, Reality, Parents, Hope, and a total score which is a summation of the other eight. The most recent statistical analysis (yielding means, sigmas, Cronbach alpha reliability coefficients and item analyses) was accomplished on a group of 244 female students at The University of Texas. The internal reliability coefficient of the toal score, based on all 48 items, was quite high (.89). Only one scale (Reality) yielded a reliability coefficient lower than .60, and in general the reliability coefficients were much higher: Parents Scale = .88; Children Scale = .85; Self Scale = .78.

Peck-Veldman One Word Sentence Completion Test (Appendix B)

The Peck-Veldman One Word Sentence Completion Test consists of 90 items which tap motivational, emotional, attitudinal and other reactions. A technique was developed to score this sentence completion form by computer on twenty-five psychological variables (Peck, Menaker and Veldman, 1966). When the twenty-five scores compiled by the computer for the psychological variables are compared with scores on the same variables made by human raters, the computer scores correlate with the individual raters approximately as well as one human rater correlates with another. For 13 of the 25 variable scores, the correlation of the computer scores with an average of the scores of two raters is higher than the correlation between the two raters. The correlations between the machine scores and the consensus ratings were found to average .66 across the 25 variables and to range from .45 to .94.

Veldman Directed Imagination Test (Appendix L)

The Directed Imagination Test (DI) consists of four blank pages. The subject is instructed to use the space to tell four stories about teaching, each story having a four-minute time limit. Techniques were developed for quantifying this narrative data, so that the instrument yields scale scores ranging from 1 to 7 on 15 separate psychological variables. A manual describing this technique of rating is available from this Research and Development Center (Veldman, Menaker, and Williams, 1968). Data on validity of the instrument, when rated with this manual, is in press (Veldman and Menaker, 1968, in press). Using the DI Manual, two trained raters, rating 79 pre protocols and 79 post protocols, achieved average interrater correlations of .57 across the 15 scales rated. The rating used was the average rating (pooled rating) of the two raters. Estimates of the reliability of the pooled judgment of the two raters were obtained by applying the Spearman-Brown Prophecy Formula to the average intercorrelation of the raters. When this was done, the average correlation across the 15 ratings was .72. The estimate of the reliability of the pooled judgments for the individual scales ranged from .55 to .88.

Self Evaluation

At the termination of the professional preparation program, each teacher was interviewed by a psychologist who had not participated in his preparation or feedback treatment. The psychologist used a standard format for conducting the interview (Appendix C). Psychologists wrote extensive case notes and/or verbatim accounts from tape recordings of these interviews. These exit interviews were categorized on the basis of a 15 item protocol which tapped future teaching plans, how he got into teaching, unique characteristics, personal changes due to college, passive-active relationships, ideal school situation, reactions to the testing, filming, test interpretation, and film viewing, and global reactions to both project courses and nonproject courses.

In addition, each teacher completed a Self Evaluation Form at the termination of preparation which yielded the following factors: relative professional competence, assessment of teaching personality, value of teaching as a career, liking for education courses, value of psychological testing, helped by feedback, teaching career easy and increase in intent to teach (Appendix D).

Teacher and Pupil Behavior

Sound films were taken of each teacher at the beginning of the professional sequence (in the junior year) and again near the end of the student teaching semester, approximately 18 months later.

Film Coding

Each one-second time segment of filmed behavior was coded according to the Fuller Affective Interaction Record I (FAIR I) (Appendix E), an adaptation of the Amidon Flanders Interaction Analysis System (1963). The FAIR I includes seven categories of teacher behavior and five categories of student behavior. Teacher categories are:

- F Accepts feelings and/or recognizes original ideas. Feelings may be positive or negative; original ideas may be content relevant or irrelevant.
- N Encourages or shows warmth by speech, facial expression or bodily movement. Includes jokes that release tension, not at the expense of another individual, a smile which is discrete rather than fixed, nodding head, saying "uhhuh?", "go on," and any movement indicating teacher is "with" the class.
- I Accepts or uses routine responses of student(s). As a teacher brings more of his own ideas into play, category L is used.
- Q Asks questions: Asks a question about content or procedure with the intent that a student answer.
- L Lectures: Gives facts or opinions about content or procedure; expresses his own ideas. The criterion is content relevance even though it may be stated in the form of a question or opinion.
- D Gives directions: Directions, commands, or orders with which a student is expected to comply.

C Criticizing or correcting: Any statement intended to change student behavior from non-acceptable to acceptable pattern. May be hostile or benevolent.

Student categories are:

E Enthusiastic or interested pupil response solicited by teacher (positive affect). Teacher initiates the contact or solicits student statement and student answers by waving hand or with other signs of interest. Must be seen by rater, not just heard or inferred.

V Response initiated by pupil (interested or without marked affect): Talk by students which they volunteer.

R Routine pupil response elicited by teacher (neutral affect): Talk by students in response to teacher. Teacher initiates the contact or solicits student statement. Behavior need not be seen, but must be heard.

H Attention lapse. Hostile, defiant, cold, bored, or inattentive pupil behavior elicited by teacher or initiated by pupil. This includes all verbal behavior which is irrelevant to class activity, inappropriate physical behavior distracting to other pupils or the teacher, waving at the camera, looking away, reading during discussion, playing with objects, etc.

W Pupil response in form of silent work such as reading, test taking, blackboard work, handicrafts, or helping teacher nonverbally.

When films could not be rated because of poor visual or sound quality they were coded "K":

K Periods in which there is no basis for judgment: Camera fades out, no sound, no persons in camera range, general noise which is not a continuation of previous classification but does not fit any other category, sound garbled, etc.

Responses by several pupils simultaneously were classified as by one pupil.

To assist judges in the coding task, certain mechanical aids were used which are described in more detail in Appendix F. These were:

1. Four Station Coding Counter, more affectionately known as the Snake Coffin. This is a long narrow table top with four slots, one for each judge, under which a paper belt is continuously moved by a conveyor belt motor. The paper tape moves at a regular rate and is calibrated so that one lined

space passes the judge's slot each second. Judges recorded codes through slots in the counter, holding down felt pens to indicate continuation of a category over time. Since the tape moves continuously, judges can keep their eyes focused upon the film. Since they do not need to look down at the paper to record codes, judges can consider visual cues in coding.

2. Individual earphones to assure independence of judgments and reduce distracting noises.

3. Code Tally Fan, a plastic sheet marked at the top according to spaces on the paper tape representing each one second of film, and at the bottom according to smaller spaces on a tally sheet, so that categories could be recorded for key punching later.

Reliability of Film Categories. Frequencies of individual categories were summed across films and expressed as a proportion of the total of one-second intervals coded. These proportions were available for each rater, and the three individual sets of rater proportions could be averaged together to provide a consensus rating for each film. Table 2 shows the intraclass correlations computed for the various film behaviors on elementary films; Table 3 presents these correlations for secondary films. The third column lists an r for the average intercorrelation between raters. To take the r in Table 2 listed for I as an example,

Table 2

Reliability of FAIR Categories (Based on a sample of 170 films, each coded by a team of three coders) Elementary Films

Category	F(1)	r(2) Average Intercorrelation Between Coders	r(3) Intercorrelation of Averaged Codings
F	1.95	.24	.49
N	3.02	.40	.67
I	3.54	.46	.72
Q	12.35	.79	.92
L	19.09	.86	.95
D	8.00	.70	.88
C	6.46	.65	.85
E	3.31	.44	.70
V	3.56	.46	.72
R	8.39	.71	.88
H	3.59	.46	.72
W	8.94	.73	.89
K	7.04	.67	.86
Total	2756.73	.998	.999

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(1) $F = \frac{V_{\overline{X}}}{V}$ where $V_{\overline{X}}$ = Mean square for persons coded

V = Mean square for error

All F's computed had a probability value of less than .00001.

(2) $r = \frac{V_{\overline{X}} - V}{V_{\overline{X}} + (k-1)V}$ where k = number of coders

(3) $r = \frac{V_{\overline{X}} - V}{V}$

Table 3

Reliability of FAIR Categories (Based on a Sample of 47 films, each coded by a team of three coders) Secondary Films

Category	F(1)	r(2) Average Intercorrelation Between Coders	r(3) Intercorrelation of Averaged Codings
F	13.01	.80	.92
N	3.83	.49	.74
I	3.52	.46	.72
Q	11.08	.77	.91
L	40.53	.93	.98
D	9.64	.74	.90
C	3.24	.43	.69
E	2.44	.33	.59
V	2.03	.26	.51
R	24.04	.88	.96
H	18.04	.85	.94
W	13.47	.81	.93
K	12.46	.79	.92
Total	69704.14	1.00	1.00

---

(1) $F = \frac{V_{\bar{X}}}{V}$ where $V_{\bar{X}}$ = Mean square for persons coded

V = Mean square for error

All F's computed had a probability value of less than .00001.

(2) $r = \frac{V_{\bar{X}} - V}{V_{\bar{X}} + (k-1)V}$ where k = number of coders

(3) $r = \frac{V_{\bar{X}} - V}{V}$

the result indicates that the average of the intercorrelations of the three sets of ratings is .46. If we take the intercorrelations of raters to be an indication of reliability of ratings, we can say that the typical reliability of a single rater's ratings on the variable I across subjects is of the order of .46. As the figures used in the present study are based on the sum or mean of these three raters, we are more interested in the r in the fourth column. This indicates the reliability of the means of these three ratings in the population. Thus, if we averaged the three ratings for each ratee and could correlate this set of averages with a similar set of averages, the resulting r would be about .72 (Ebel, 1951; Guilford, 1965).

All the r's listed in Tables 2 and 3 are highly significant. The significance of this statistic is a direct function of the probability level of the F value to which it is related. For all F's computed, P was less than .00001. Hence, reliability was accepted as satisfactory.

Film Rating

In addition to coding, each film was rated by three judges using the 12 dimension Teacher Assessment Form (Appendix

G). Reliabilities of dimensions are shown in Table 4.

The Teacher Assessment form yielded two factors. The dimensions and varimax factors are shown in Table 5.

Table 4

Reliabilities of Teacher Assessment Form Dimensions (Based on a sample of 213 elementary & secondary films)

Dimension	Reliability
Abstruse - lucid	.71
Confident - fearful	.63
Dull - stimulating	.67
Energetic - inert	.58
Involved in content - not	.61
Phony - congruent	.43
Slipshod - businesslike	.54
Warm - cold	.58
Overall good - bad	.67
Students hostile - friendly	.63
Students interested - bored	.68
Students learning - not learning	.66

Table 5

Teacher Assessment Form Factors

	Loading
I. Teacher Interesting-Warm (39.40% variance)	
Teacher stimulating vs. dull	.83
Teacher warm vs. cold	.79
Pupils friendly vs. unfriendly	.78
Pupils interested vs. bored	.77
Teacher overall good vs. bad	.79
Pupils learning vs. not learning	.66
Teacher involved vs. uninvolved	.65
Teacher energetic vs. quiet	.59
II. Teacher Organized-Confident (23.39% variance)	
Teacher business-like vs. slipshod	.88
Teacher lucid vs. abstruse	.75
Teacher confident-smooth vs. awkward	.61
Teacher congruent vs. phony	.44

Percent total variance extracted: 62.79

Sample: Elementary pre and post, secondary post (N = 213)[3]

(Phrases underscored are those which characterize a teacher who has high scores for the factor shown.)

In text, factor I is "interesting," factor II is "organized."

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[3] Secondary pre films were taken in the college classroom rather than in the public school. Consequently they were not included in the factor analysis.

CHAPTER V: GENERAL RESEARCH STRATEGIES

I. The Theoretical Consensus - Empirical Reformulation Approach

For reasons already discussed, specification of a single theoretical framework of affective teacher-pupil interaction is difficult and in our view, impossible at the present time. Bruner (1966), Medley (1967) and others support this position and extend it to other aspects of teacher behavior.

Nevertheless, some consensus is implicit in practice and across theories. Feedback is one example. Flying many flags, information fed back to a subject about his performance is generally conceded to influence his subsequent performance. Sometimes this is active feedback: psychoanalytic interpretation, Rogerian clarification, Skinnerian reinforcement, Brunerian direction. Recognition of the influence of feedback on behavior change is also implicit when information is withheld: witness the elaborate safeguards in research to prevent subjects or judges from discovering the relationship of their performance to the hypotheses under investigation. The larger, implicit hypothesis is that knowledge of performance will change behavior.

Feedback is, in fact, a useful example of the possibilities of the consensus-reformulation approach because, although feedback is accepted quite generally as an influence on behavior, its specific effects with different subjects in varying situations with different goals and different criteria, are debated. The research question of course is what feedback to which people under what circumstances with what effects (Sanford, 1953).

In most "hypothesis" testing (and formal hypothesis testing is unusual in teacher education), some theoretically (or atheoretically) derived treatments are selected (such as some type of psychotherapy, lecture style or discussion style), and then the effects of the treatments are measured on some pre-determined criteria.

At the present "Baconian" stage of teacher education research, such procedure is questionable. In the absence of a single theory, even if methodological problems, very difficult to resolve in this area, are not considered, a more important flaw might exist: the possibility that all that is reported, treatments and effects alike, is either irrelevant or a small part of what actually went on.

One way of reducing the number of factors which are overlooked is to:

1. Make many observations about the population and

the situation, observing both criteria and possible predictors.[4]

2. Search from these data for some theoretical consensus. This may be approached by looking for an existing set of propositions or theory that accounts for the observations. It may also be approached by attempting to determine inductively which of the predictors actually best predicts the criterion, then trying to subsume the many differing operational definitions under a few constructs, and fitting these constructs into some set of propositions or "theory."

3. On the basis of this set of propositions, or this theory, devise a treatment, specifying relevant observations to be made; and design a new experiment to test and describe the effects of the treatments.

4. Re-examine the treatments in order to discover what _in_ the treatments, was associated with the effects, on which subjects, under what circumstances.

5. Use such findings as observations to begin the cycle anew.

This was the strategy which was begun in this series of investigations.

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[4] Lacking a single clear-cut criterion (and having instead many ill-defined potential criteria) we try to find some "universal predictors," i.e. variables which may be influential very frequently. These are supposedly analogous to such variables in physics as spatial dimensions, heat, weight and time. We doubt, of course that these will prove completely adequate, but we hope to test their usefulness.

In some areas we are in stage 1, still making observations about the population. For example, what do beginning teachers do when they first start to teach? How is this behavior related to particular personality configurations? What responses do students make to beginning teachers? Do different types of students perceive beginning teachers differently?

In several areas we are in stage 2, searching from observations made in the past for some set of propositions which organizes the observations. For example, we observe that student teachers' concerns are, in this population, consistent across groups and seem to arrange themselves in hierarchial order (or orders). This seems consistent with Maslow's hierarchy of needs which posits needs ranging from physical to aesthetic and which can be extended to fit our data. To achieve a "fit," we must ignore the short time span of student teaching, short compared with Maslow's hierarchy over the life span.

Another example is the attempt to construct coding systems for narrative-type data such as sound films and observers' records. In the case of films, the Bales-Flanders conceptualization encompasses some observed behaviors. Other categories (e.g. pupil affect like hostility and boredom) were added empirically and now seem to contain the dimensions proposed by Chance (1959) and Romano (1960) developed from

Sullivanian theory.

In one area, we have made tentative forays into stage 3, those being reported in this investigation. Three treatment areas were selected on the basis of observations (expressed needs of prospective teachers). Treatment procedures were devised which seemed consistent with these observations. The treatments were then administered to some teachers and denied others and effects measured.

In no area have we yet forayed into stage 4. We report here the effects of these derived treatments, but precise analysis of their components is only now under way. For all we know at this present moment, the treatments we believed we were administering were perceived as something quite different by the subjects who were treated. This does not disturb us. Such a finding might in fact demolish consensual shibboleths, if such they be. Through specification of the actual, i.e., the subject-perceived, subject-received, treatments, rather than perseveration with some possibly non-existent, researcher-perceived treatments, we can hopefully return to our data to discover the effects of the "actual" treatments, and can specify which components were necessary to produce effects and which components were irrelevant. Such specification is, of course, prerequisite to discovering whether different treatments (or aspects of treatments) interact with personality, situations and teaching goals.

II. The Infinite Regress Strategy

When assesment of human interaction is at issue, the observer of the interaction is a participant in the interaction, albeit a silent one. Consequently, the "Iceberg Phenomena" (Ch. II., p. 24) and the model for discovering what is known and unknown to the participants in the interaction (Ch. III., p.43), apply to the observer of the interaction as well as to the participants in the interaction. What we call the infinite regress strategy is an attempt to extend this model to include the observer as well as the participants.

When the observer is added to the model, there are the eight possibilities which can be represented diagrammatically using, for illustration, the teacher as the "self":

Possibilities	State of Awareness of the Self (teacher)	Other (student)	Observer	Examples of Observation Procedures to Collect Relevant Data
public, observable	known	known	known	8 mm sound films* audio recording*
public, unobservable	known	known	unknown	teacher questionnaires*
private, observable	known	unknown	known	stimulated recall (from sound films)**
private, unobservable	known	unknown	unknown	confidential interview*
incongruent, observable	unknown	known	known	filming and observation of pupils*
incongruent, unobservable	unknown	known	unknown	pupil questionnaires*
unconscious, observable	unknown	unknown	known	behavior feedback*
unconscious, unobservable	unknown	unknown	unknown	assessment feedback* (collation and interpretation of all other data)

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*Procedures used in this study

**Not used systematically but recall was often stimulated in behavior feedback session

This model obviously is susceptible of extension: to the assessor of the observer, the assessor of the assessor, to therapists, supervisors and other feedback agents. Although such "regress" (Like a mirror in a mirror in a mirror) probably reaches a point of diminishing returns, it makes it possible to account for more and more of the total variance.

Gathering data which makes explicit the influence of the observer is particularly important in programs that encourage change. Earlier, it was pointed out that such programs change not only subjects but also researchers. Hence, some assessment of the assessors is required, especially in long-term programmatic research since as they change, time and sequence and experience effects need to be taken into account.

The practical consequences of this strategy included selecting research personnel on the basis of psychological instruments; controlling administrator, supervisor, therapist, and cooperating teacher variables; and making some probably irrelevant observations, but some apparently unpredictably relevant, ones, e.g., about interactions among members of teams of film coders[5] and about cooperating teacher behavior while student teachers were being observed.

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[5] It was noted for example that when one coder in a team of three was late, and the other two were irritated, interjudge reliability was lower, due we surmise to "affect."

III. Controlling for Pre-existing Conditions

Certain pre-existing conditions, pre-treatment personality for example, could be expected to influence effects of treatments. It might also be expected that these pre-existing conditions would be confounded with other variables. There might, for example, be consistent pre-treatment personality differences between elementary and secondary prospective teachers since they were self-selected. Elementary and secondary teaching situations were obviously different.

Consequently, where both pre- and post-testing was possible, a trials by treatment (pre post treatment interaction) analysis was done. In some cases however, this was not possible. For example, the self-evaluation questionnaire and the exit interview tapped post-treatment attitudes. Teachers did not have any basis for making pre-treatment judgments. However, it was possible to consider the effects of pre-existing conditions in the results of 2-way analysis of variance (for example, elementary - secondary x experimental treatment) by extending the design to three dimensions, where pre-test personality was added as a third dimension.

As will be seen in the discussion of results, this tactic was fruitful in assessing effects of treatment. Differences which might have been interpreted to indicate greater effects for elementary than secondary teachers were seen to be related to pre-treatment personality. Pre-treatment conditions other than personality may account for differences. In future analyses the following sources of influence can be controlled since data was collected which makes this possible:

Sources of Influence	Data Source
1. Circumstances unrelated to experimental treatment:	
a. Changes in situational stress associated with filming	Recorder's in-class notes
b. Changes in socio-economic levels of classes taught in pre and post filming	Recorder's in-class notes
c. Changes in personal life	Biographical Information Form Exit interviews Follow up interviews
2. Pre-post changes partly due to treatment	
a. Relationships with cooperating teacher and evaluation by cooperating teacher	Exit interview notes Supervisor notes Cooperating teacher ratings
b. Relationship with supervisor and evaluation by supervisor	Supervisor notes Exit interview notes Supervisor ratings
c. Evaluation by peers	Peer ratings (Socio)
d. Changes in grade point average	Academic records
e. Grade level taught	Supervisor records

CHAPTER VI. RESEARCH DESIGN AND DATA GATHERING PROCEDURES

This section first summarizes briefly overall data gathering procedures and then describes the subject population, and the specific procedures used to resolve methodological problems. Treatments are described in Chapter VII.

Summary of Procedure

Prospective elementary and secondary teachers entering professional preparation in the junior year were divided into four groups, one no-treatment group and three treatment groups.

Subjects in all four groups took, at this time, the battery of psychological tests described in Chapter IV and took them again at the conclusion of student teaching 18 months to two years later.

In addition, each subject was filmed once while teaching at the beginning of the junior year and again while teaching in the senior year during the practice teaching semester. (For the elementary students, the junior year film was taken in the observation-participation semester, when the teacher trainee observed in a public elementary school classroom two mornings a week. For the secondary students, the junior year film was taken of a "role-playing" situation, in which the teacher trainee taught a lesson to her fellow students in an Educational Psychology course.) The film was a 15 minute 8mm. sound film which sampled approximately one hour of a subject's teaching. The subject knew in advance that she would be filmed. She selected (within practical limits) the day, hour, content and teaching method.

The C (Control) Group was given the battery of projective tests and was filmed at the beginning and end of the study, as were the other groups, but received no additional treatment of any kind.

The AF (Assessment Feedback) Group, in addition to being tested and filmed, was given a one hour appointment with a counseling psychologist. All subjects showed up. At this conference, subjects were given an opportunity to discuss their projective tests and to receive some assessment "feedback" from the testing. Additional counseling appointments were made if requested. AF subjects did not see their films.

The BF (Behavior Feedback) Group, in addition to being tested, filmed, and receiving assessment feedback, saw their own teaching films with the counseling psychologist and their university supervisor. In this "film feedback" session, subjects were encouraged to discuss their student teaching problems.

The SF (Situation Feedback) Group, in addition to being tested, filmed, and receiving assessment and film feedback, was placed for the student teaching semester in a situation judged by the psychologist, principal and university supervisor to be maximally facilitating for the subject.

These AF, BF and SF procedures are described in greater detail in Chapter VII which follows.

Subjects

The original PEB proposal in 1962 contemplated sampling three populations of prospective teachers, divided into four treatment groups. The three populations then proposed were:

1. The MHTE population. A bank of data was available for approximately 3,000 subjects and it was anticipated that one kind of "control" group could be selected from this sample with data similar to that to be gathered for new populations.

2. A new population of prospective teacher undergraduates which would follow a four-year program of teacher preparation then emerging in the College of Education. This four-year program would concentrate professional courses during the third and fourth undergraduate years. (The MHTE subjects had begun professional preparation during their first undergraduate year.)

3. A new population of prospective fifth-year students. These subjects were to follow an experimental post graduate program.

Several developments during 1962-1963 made changes in this design necessary.

First, the anticipated fifth-year program was not instituted by the College, due in part to legislative revisions of the teacher education program. Consequently group 2 (four-year program undergraduates) was doubled to replace the five-year experimental group.

Second, during the PEB "tooling-up" period, 8 mm. sound film became available.[6] The advantages of sound films over tape recordings as criterion data were obvious. It was decided to use coded sound films of classroom interaction as an outcome criterion. The MHTE sample had not, of course, been either audio taped or sound filmed and therefore that sample could not be assessed on criteria based on film data. In addition, the situation variable emerged during the PEB "tooling-up" year (the last year of the MHTE study) as an important influence on prospective teacher behavior, attitudes and self report. The social class of the school and the characteristics of the cooperating teacher (including acceptance or non-acceptance of the young teacher into the classroom) seemed to influence heavily the prospective teacher's attitudes and behavior. In many instances, final interviews and observations had revealed that the same student teachers behaved differently, and reported different attitudes, in different classes and schools. Since the precise bits of information necessary were not available (such as situational information) to select a sample which had had similar student experiences, and since no film data were available for the MHTE sample, it was decided not to use the MHTE subjects as a control group.

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[6] Dr. Benjamin Holland, associate professor of Educational Psychology and audio-visual specialist, was principally responsible for this innovation. He pioneered the first sound filming of prospective teachers and made possible the development of the procedures which made sound filming both acceptable and feasible in classrooms with great variability in emotional tone as well as with a tremendous range of situational and technical problems. The authors wish to acknowledge with gratitude his contributions to this research as well as his unique human gifts for creating a climate of trust which made the filming possible. His procedures are described elsewhere (Holland, 1964).

The new population from which the PEB treatment groups were drawn, therefore, was the whole undergraduate population of The University of Texas who were pursuing teaching certificates. At this point, all prospective teachers were in a four-year undergraduate program with professional courses beginning in the junior year. This is population #2 shown in Figure 2, a diagrammatic representation of the initial PEB proposal design.

Randomness in Selection of Subjects

Because of the usual practical problems of scheduling courses, etc., it was not possible to use strict randomization procedure, i.e. names were not drawn from a bowl including names of all eligible students.

At the same time, it was undesirable to select volunteers, as is often done, because findings can then be generalized only to a similar volunteer population, and it is usually not possible to specify the motivation and other factors involved in volunteering.

Figure 2

INITIAL PTETB PROPOSAL DESIGN

Treatment Groups	Populations																	
	1 MHTE controls						2 4 year experimentals						3 5 year experimentals					
							Mental Health											
	Hi		Md		Lo		Hi		Md		Lo		Hi		Md		Lo	
	E	S	E	S	E	S	E	S	E	S	E	S	E	S	E	S	E	S
							Subject variables											
No treatment	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Individual counseling							x	x	x	x	x	x	x	x	x	x	x	x
Group counseling using tape recordings plus individual counseling							x	x	x	x	x	x	x	x	x	x	x	x
Interpretation to individual supervisors plus group counseling plus individual counseling							x	x	x	x	x	x	x	x	x	x	x	x

Total groups: 54 E = Elementary majors S = Secondary majors

Population 1 is MHTE sample (discarded as control group because of lack of sound films)
Population 2 is PEB sample
Population 3 was not secured because 5 year program was not instituted by University.

Consequently, subjects did not volunteer. All students who registered for pre-arranged but undesignated sections of a required professional course became subjects.

Assignment of Subjects to Treatment Groups

Subjects who registered for the designated course sections were assigned to one no-treatment and three treatment groups.

Equivalence of Treatment Groups. In order to minimize possible systematic differences between experimental and control subjects, each subject's psychological test battery was assessed before assignment to a group. Two psychologists independently assessed each subject's "mental health" globally, defining mental health as ability to cope as a person. No attempt was made to predict teaching performance. Disagreements between the two psychologists were resolved by conference and each subject was placed on the basis of this clinical assessment into one of three mental health groupings: high, middle, low. The names of the subjects in each mental health grouping were shaken in a bowl, names drawn and assigned alternately to treatment groups.

Table 6 shows the number of subjects thus assigned to each treatment group (AF, BF, SF, Control) by level (elementary, secondary) and by mental health grouping (high, middle, low).

Checks on Equivalence of Groups. A check was made after assignment to treatment/no-treatment groups on the equivalence of the groups. The frequency of actuarial events was compared

Table 6

Number of Subjects by Teaching Level, Treatment

Group and Mental Health Group (Pre) N = 174

Mental Health Groups	Elementary				Mental Health Groups	Secondary			
	Controls	AF	BF (BF+AF)*	SF (SF+BF+AF)**		Controls	AF	BF (BF+AF)*	SF (SF+BF+AF)**
High	8	8	8	8	High	6	7	6	7
Middle	8	8	8	8	Middle	6	8	6	7
Low	8	8	8	8	Low	7	6	6	6
Total	24	24	24	24		19	21	18	20

Total Elementary = 96

Total Secondary = 78

* BF group received 2 treatments
** SF group received 3 treatments

for different groups: age, parents' occupations, etc. Frequencies were obtained by coding the Peck Biographical Information Form. Elementary-treatment and no-treatment groups were compared on the variables of age, home owned or rented, city or rural home, marital status, education of father, and prior teaching experience. All chi squares were non significant, indicating that on these variables the groups did not differ. Treatment and no-treatment groups of secondary subjects were compared using similar codes. Secondary groups were also compared to discover whether they differed in college in which they were enrolled (Arts and Sciences vs. College of Education) and subject matter speciality. All chi squares were non significant with the exception of age, the AF secondary group containing somewhat more subjects over 21 and fewer who were 20 or under than the other groups. Overall, it appeared that the experimental and control groups were roughly equivalent within level (elementary and secondary).

"True" Control Group. In order to minimize the possibility that differences between experimental and control groups might be attributed to events other than the experimental treatments, certain non-treatment experiences and conditions were equated for all subjects within teaching level. For example, experimental and control elementary subjects had the same university instructors for professional courses and the same university-student teaching supervisors. They were filmed in the same schools with the same supervising classroom teachers and did their teaching in the same schools.

For secondary subjects, it was not possible, because of content areas taught, to assign all subjects to the same schools, but all secondary subjects had the same professional course instructors, were filmed in similar circumstances and, across groups, were assigned for student teaching so that approximately equal numbers of subjects taught in the different schools.

All subjects, experimentals and controls, were similarly tested and filmed pre and post. All who completed the program were individually interviewed at the end of their preparation.

Control subjects, of course, did not receive treatments such as counseling from the research staff but it was possible they had requested counseling or psychological feedback from other sources, principally The University of Texas Testing and Counseling Center. At the end of the study, a check was made to discover whether any of the 43 controls had received such counseling.

None of the elementary control subjects had received such counseling. One secondary control subject had been seen for four counseling interviews outside the research project and three subjects, for one interview. Of course, others might have received counseling elsewhere, such as from a private therapist.

Because such services are expensive and because such services were offered free both within the research project and by the University for all University students, it seems unlikely that many subjects would have sought such services. Because of ethical considerations, it was not possible for the University Counseling Center to identify the three subjects counseled there. However, such counseling would be expected to diminish differences among groups due to experimental treatments. Probably, the total effect is to add support to any differences found. Since subjects were free to request outside counseling, we can generalize findings to populations of prospective teachers who have a counseling center available as well as those who do not, with the expectation that where no counseling services are available, effects of feedback treatments might be enhanced.

Sequence and Instructor Experience Effects.

When control groups are run first and experimental groups run later, it is possible that effects attributed to treatment are due to other events. Instructors may become more confident or experienced; subjects may hear by the grapevine that special treatments are available and, in effect, volunteer for the study unbeknownst to the investigators. Since groups were started over four semesters, temporal sequence was taken into account by assigning half of each group during early semesters and half during later semesters. In the case of elementary subjects, the division was equal:

	Groups			
	Control	AF	BF	SF
1st semester	1/2	1/2		
2nd semester			1/2	1/2
3rd semester			1/2	1/2
4th semester	1/2	1/2		

Since secondary registration and sequence was more complex because of numerous subject matter fields, more varied school assignments, etc., secondary treatment groups could not be evenly divided but some subjects were assigned each semester to all four treatment and no-treatment groups.

Ecological Reality

Because findings derived from a "laboratory" setting may not obtain in the natural situation, and are therefore of questionable validity, attempts were made to allow the ecology to vary naturally except where specifically controlled (e.g. treatments, school, instructors and supervisors). Except for the experimental treatments, subjects followed the same professional course sequence as other prospective teachers at The University of Texas. They registered in the same manner and were graded by supervisors in the usual way.

Hawthorne Effect

Subjects may respond differently simply because they are part of an "experiment" and this different response might be mistakenly attributed to treatments. Because of pre and post filming, subjects were acutely conscious of being in a "special" program. However, both experimental and control subjects were tested and filmed so that, if a Hawthorne effect associated with testing or filming contributed to outcome, it is likely the contribution was equal for experimentals and controls. This would mean that the differences found hold true for tested-filmed treated and tested-filmed non-treated groups rather than for treated vs. non-treated groups.

A variety of instructional procedures and experimental treatments was common throughout the College of Education of The University of Texas at the time of the investigation so that subjects did not stand out as a unique experimental group, but were taking part in one of a number of variations of the professional sequence.

Denial of Treatment

A control group is essential to establish treatment effects, since it cannot be concluded that treatments produced effects unless treatments are denied a comparison group. However, denial of treatment may itself be a treatment, albeit a negative one. The usual procedure to ameliorate this possibility is the assignment of a placebo group. Because of limitations on the size of the investigation, a formal placebo group was not possible. However, all subjects were seen for hour-long, confidential depth interviews at the conclusion of their preparation by a psychologist who had not taken part in their treatment or program. These were the exit interviews mentioned earlier. Subjects were asked about their perceptions of their total preparation and of the particular program in which they were enrolled and notes taken of comments about denial of feedback treatment. Such ex post facto data is not of course a substitute for a placebo group but was gathered to assess the effects of denial of treatment on experimental control differences.

Filming

Equipment. Dr. B.F. Holland, who supervised all the filming, has described in some detail the cameras, accessories, procedures used, as well as the development of techniques used and problems encountered in earlier filming of pilot groups of prospective teachers (Holland, 1964). The equipment accessories included:

Fairchild 8mm. Sound Zoom Camera with exposure meter designed for color film with emulsion speeds up to ASA 40.

Weston Master Exposure Meter.

Graflex Tripod.

A shop-made, 2-channel sound mixer, with volume control for each input.

A battery meter attached to the camera.

A Switchcraft 4-channel Mixer modified for low impedance output.

A number of converter plugs for microphone jacks of different sizes.

Pilot Filming. A sample of 20 student teachers, not included as subjects in the main study, was filmed teaching groups of 6-10 students for five minutes in color. Six university professors evaluated the films and recommended that:

1. Future films be made in black and white since lights required for color film were distracting to subjects.

2. Five minutes was too short a sample; 10-15 minute filming was recommended as a minimum.

3. Teachers should teach classes rather than small groups.

4. "Chipmunky" speech due to battery exhaustion biased the assessment of teaching performance. Projection equipment should be modified to eliminate this.

5. Simultaneous audio recordings should be made as back-up in case of sound failure or distortion.

6. Circumstances surrounding the filming should be noted by a trained human observer (date, time, events immediately preceding filming, etc.)

These recommendations were followed in subsequent filming.

Preparation of Subjects to Be Filmed. Since elementary subjects would be doing their first teaching in the public school while they were being filmed, some procedure to "desensitize" them to filming seemed desirable. To this end, they were filmed in a university classroom as a group while they were responding as students to a university instructor. The instructor elicited responses from as many students as possible, told jokes, etc. Subjects then saw themselves in this film, making presumably anxiety-reducing responses (laughing, etc.) in the presence of the anxiety-arousing stimulus (the camera).

After this filming in the university classroom, the "Information for Students Regarding Filming" reproduced in Appendix H was discussed with them. They were asked to give the cameraman some information about their plans on a form, Junior Teacher's Worksheet, which is included in Appendix I.

Secondary teachers' professional program did not include any public school teaching before student teaching. Secondary subjects, therefore, were filmed during their junior year (pre-film) teaching in the university classroom.

Each student was filmed teaching the other students in his education psychology class. The post filming occurred at the end of student teaching (senior year). Consequently, there was no "desensitization" filming for secondary subjects, but procedures were otherwise approximately the same as those described above.

Filming Procedure.

1. Filming equipment was placed in the hall near the

classroom, and then camera and audio tape recording equipment was set up in the room.

2. The photographer conferred with the student teacher regarding the nature of the lesson and the approximate amount of time to be devoted to each part.

3. When necessary, some chairs and desks were moved toward the side of the room away from the windows.

4. The camera was mounted on a table near the window and lens opening and focus were adjusted. The audio recorder was placed at the back of the room.

5. If teacher was not already teaching, she was told the equipment was ready.

6. The photographer took a close-up of the teacher and wide-angle shots of pupils in different sections of the room and close-up shots of displays or charts to be used.

7. During filming, the photographer pointed the camera to make close-up, medium and wide-angle shots that seemed in his professional judgment to represent the total behavior of the teacher and students. The cooperating teacher was filmed only if she participated in the teaching.

8. To apportion the two rolls of film used, the camera was started and stopped at intervals during the hour to avoid use of film in periods of silence.

9. At the end of a half reel, a second camera was started

while an assistant readied the first camera again.

10. The recorder took notes about events outside the view of the camera and attended to the audio tape recorder. The information form used by the recorder is included in Appendix J.

11. At the end of the filming, a short record was made of technical events (light meter reading, etc.). This included a diagram of the classroom.

Film Teams. The film team consisted of the cameraman, an assistant and a recorder. The cameraman was an educational psychologist and faculty member. His assistant was a graduate student in educational psychology. The recorder was a graduate student with experience in public schools. Care was exercised to select individuals who were confident, quiet, practiced, non-judgmental, supportive, who worked together as a team and who could remain passive during the filming. Every effort was made to disturb the class as little as possible, to reassure the subject and the cooperating teacher that no judgments would be made about their performance and to communicate the appreciation of the research staff for their cooperation. Instructions to film crew are included in Appendix K.

Reactions of Those Filmed. Contrary to expectations, pupils seemed to pay relatively little attention to the filming except to look occasionally toward the camera. However, they usually came to school in their best clothes on the day of the filming. They often expressed, as individuals and as a class through their teachers, a desire to see their films. Since funds or personnel had not been provided for this, pupils in the filmed classes did not see their films. However, the interest of pupils in seeing their films suggests the possibility of using films as stimuli for "stimulated recall" to investigate the unverbalized responses of students to teaching which were not overtly observable in the film.

Junior teachers filmed in the public school and in the university classroom expressed feelings about the filming ranging from eager anticipation to fright. Mostly, they expressed some trepidation about pupil misbehavior and lack of interest of their pupils; about their own appearance; and about running out of material before the filming was over. They usually appeared at their best, and often had their hair done. After being filmed, they usually asked how well they did, particularly of their cooperating teachers. The film team, when asked, responded factually: the children seemed to ask lots of questions; the maps were colorful; the filming went off very well.

The freedom of the junior teacher in choosing content and method usually depended upon the cooperating teacher's preferences and plans, so this varied from class to class. Consequently, although no restrictions were placed on the teaching by the research team, considerable variability in freedom to choose probably existed from subject to subject. This is a problem which deserves careful study in the future.

Subjects seemed to express less apprehension about the filming when they were filmed during student teaching than during junior teaching. This may have been due to experience in teaching, experience in being filmed or familiarity with the school. (Elementary subjects did pre and post teaching in the same school.)

The reactions of cooperating teachers (who were not filmed) ranged from apathy to intense agitation, and the range of reactions seemed at least as wide among cooperating teachers as among junior teachers or student teachers. The cooperating teachers expressed fears that their own performance would be assessed, e.g., that the behavior of the class reflected their own control of the class. Cooperating teachers sometimes gave suggestions to the junior teacher during the filming period, even reprimanded students. (This problem was not satisfactorily resolved during the study being reported here. However, during a subsequent study, when video taping was done from a mobile "video van," a place was made in the van for the cooperating teacher so she could see on a monitor what was going on without being physically present in the classroom.) This suggests that the cooperating teacher is important, perhaps a massive, influence on the prospective teacher and this influence needs to be studied.

The filming aroused the interest of individuals not participating directly: administrators, public school supervisors, other student teachers and members of the research staff, and others. Although attempts were made to minimize the number of such observers, such attempts were not always successful. The video van now in use however resolves this problem by allowing interested observers to watch the monitor without actually being in the classroom. In the study being reported here, a record was kept about the observers and their activities, as well as about the activities of the cooperating teacher during the filming, so this data can be considered in future analysis.

Despite the varied reactions of subjects and cooperating teachers to anticipated filming, none refused to be filmed and pre films were made of all subjects. Subjects who were assigned BF treatment (i.e. who did see their films) were not filmed during the same semesters as subjects who did not see their films, so there were no cases where some members of a university class saw their films while others were denied this opportunity. However, a few no-feedback subjects asked to see their films and did see them after all post tests and exit interviews had been completed.

Film Length. Films were samples of one hour of class time. After films were edited to eliminate technically unuseable portions, they ranged in length from 3.75 to 19.50 minutes as follows:

Duration in Minutes of Shortest* Rated Length of Each Film

Sample	Longest	Shortest	Median
Elementary Post	19.45	7.45	12.35
Secondary Post	16.10	4.10	11.55
Elementary Pre	19.50	3.75	10.75

As was noted earlier, in analyzing one-second categorizations of films, proportions of categories were used because of unequal length of films.

Professional Preparation Program

Subjects followed the program prescribed for all prospective teachers at The University of Texas. This was a sequence of experiences usually occurring over a two-year period. As a result of the Mental Health in Teacher Education study, a college-wide screening program required all education majors to take a battery of tests used to determine whether program applicants met admission requirements (grade point average, academic courses etc.) and whether counseling was indicated. Subjects were required to meet the course and grade point average requirements for admission to the program but were otherwise an unselected sample of the total population of applicants for teacher preparation. They did not receive counseling through the college screening program since counseling was a treatment to be assessed in the study.

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*The figures shown are based on the length of the shortest of the 3 ratings each film received rather than on the average length of each film (rating 1 + rating 2 + rating 3) ÷ 3.

Elementary education majors were required to complete 24 hours of professional preparation including: a 9-semester-hour block of supervised laboratory experience in the public school and educational psychology in the junior year; 3 semester hours of history and philosophy of education; 9 hours of methods courses and 9 hours of student teaching. Secondary education majors were required to complete an analogous 18-hour sequence. The secondary sequence however did not include required laboratory experiences in the public school in the junior year. Both groups however were required to complete one semester of student teaching in the senior year.

In the elementary sequence, professors of Curriculum and Instruction and professors of Educational Psychology were a "team" and taught and supervised the same students. Although this was not true of the regular secondary program, special arrangements were made so that Curriculum professors and Educational Psychology professors could be assigned the same students. In addition, a clinical psychologist was a third member of the team. This clinical psychologist conducted all the feedback sessions usually with the curriculum professor present at behavior (film) feedback conferences.

CHAPTER VII PERSONALIZATION TREATMENTS: ASSESSMENT FEEDBACK, BEHAVIOR FEEDBACK AND SITUATION FEEDBACK

A general rationale was presented in Chapter I for "personalization" of undergraduate teacher education. But what is the nature of this personalization?

Personalization as used here is not the oft-recommended "getting to know students." In many institutions, such personalization already exists even though its effects are not assessed. Students do have an identity and sometimes enduring, mutually beneficial relationships with their professors. Personalization here refers to "psychological personalization:" a sophisticated, non-evaluative, clinical description of the teacher both as a person and as a teacher, a description to which both the teacher and the psychologist contribute. What is the rationale for this particular kind of personalization?

In a classic commentary on teacher preparation, Shaplin (1961) makes several relevant points. Teaching, he says, is an extremely complex kind of behavior involving the full range of thought processes, communication and physical action. Much teaching behavior is habitual behavior which individuals have developed in other contexts and which is inappropriate for the teaching situation. Much teaching is conducted under conditions of stress and behavior under stress is likely to be "spontaneous," i.e., a function of motivation of which the individual is not consciously aware, or at least which he does not verbalize at the moment of action.

Clinical observations made in the Mental Health in Teacher Education Study supported this notion that teachers know more than they know they know. They are largely unaware of the motivational sources of their own behavior when they are interacting with students. As a result, their behavior seems to be susceptible of change only for short periods in predictable situations. Even then, they change only some aspects of their behavior, and it is doubtful whether the behaviors they try to change influence the interaction. For example, they often want to stop waving their hands around or saying "Uh-Huh" when they are thinking. Even these minor and probably irrelevant behaviors are difficult to change. Anyone who has witnessed a teacher trying to make as small a change in habitual behavior as saying "O.K." can testify to the difficulty inherent in making shifts in habitual responses.

Of equal importance are behaviors, attitudes and motivation, which the teacher would not want to change (and supervisors would not want to change) if their import were understood. Time and again we observed that a teacher did the "right" thing for the "right" reason but was unaware of either her response or the reason for it. The teacher sensed something which she did not or could not specify. She responded to it and if it was a problem, solved it, without being able to explain how she had arrived at the solution. In many cases, the problems and solutions were extremely complex but the teacher's response took but an instant and, to an onlooker, the response appeared simple and obvious. For example, we witnessed a teacher in a tutorial type lesson correcting math papers. She had distributed different sets of problems to each child. As each child completed his problems, he brought his paper to her and she commented on it. In the course of about 30 minutes, she made several hundred complex decisions. She decided on the order in which she would talk to the children when two or more finished at one time. Sometimes she crossed off a difficult problem which one child could not do and substituted for it an easier problem. Sometimes she crossed off problems which were too easy and substituted more difficult problems. She told one child to go to a reference book, another to study a map until she could get to him. She commended one child for partial completion of a problem and gave him some hints about it, but sent another one back to his seat with the comment that he could finish it himself if he looked over his previous work more carefully. And so it went: hundreds of decisions, thousands of bits of information being processed to arrive at the decisions. When we asked the teacher how she arrived at just one of these decisions, she was at a loss, saying that she just "knew" that that was what that particular child needed.

Quite often, teachers made decisions but felt "bad" about making them, even though they appeared "right" to an observer. For example, a teacher made a mistake. The class pointed out the error. The teacher was non-plussed for a minute and then, realizing they were right, admitted the mistake and repeated the directions correctly and went on. When she recalled the incident later, she said she felt "terrible" about the incident and thought she should not have had to correct her mistake, that she should not have made it in the first place. (This kind of classroom incident was so common that it will be used as an example later in the description of the film feedback treatment.) Nevertheless, the incident appeared to be (on film) an innocuous one and probably constructive for the class. The pupils were sufficiently attentive to catch the mistake immediately; the teacher corrected it immediately and cleared up the confusion it had caused. As Sarason (1962) has pointed out, we cannot learn what we already know, so that admission of ignorance is a necessary part of learning. As research with perception testifies, making errors is a necessary part of correcting misperceptions. If the teacher can admit her errors easily and correct them, presumably students learn to do so too. The catch here is the word "easily." The teacher felt embarrassed and abashed over what was a good decision. As will be seen later, sometimes when teachers became aware of what they had "really" done, they felt better about what they had done.

So teachers do things of which they are unaware; some of the things they do, they like and some they don't like. But so long as they are unaware of what went on, they often can't discriminate one from the other, and can't get hold of what they want to change. Three problems are involved: deciding what can be changed, deciding what should be changed and changing.

There are two major approaches to the problem of behavior change. One might be called the "outside" method: manipulating the environment so that new responses are reinforced and old responses are extinguished. Changes in teaching behavior which accrue from "experience" are probably due in part to such reinforcement of teachers by pupils and of teachers by themselves (e.g. punishing themselves by feeling bad when they admit mistakes). However, pupil response and other "natural" reinforcement is probably inconsistent and, in any case, is difficult to regulate since pupils too are "spontaneous" rather than "programmed." More important, the desirable and undesirable behaviors must first be distinguished and then elicited before they can be reinforced. These behaviors seem to vary so from one teacher to the next that intensive study of individual teachers is required to discover what habitual responses are made by which teachers to which students. In addition, student responses to these teacher behaviors must be specified: which teacher behaviors elicit student interest, which elicit content-relevant responses etc. Some of our most recent work, subsequent to that being reported here, demonstrates that teacher "effectiveness," like beauty, often resides mainly in the eye of the beholder. Effectiveness may be defined differently and even antithetically by professional educators, pupils and film judges, for example. When all the complex factors which enter into the teachers' decision-making processes are really considered, it seems presumptuous in our present state of knowledge to decide which behaviors to reinforce, for which teachers, in interaction with which students.

Even more important, is the danger that constructive teacher behaviors will be eliminated in the process of conditioning selected responses. If, as we have observed, and as Polanyi (1968) contends, people, including teachers, know more than they know they know, they may be using information which even researchers who try to train teachers do not have available. As one mother said back in the 30's, "I see that my children get the orange pulp as well as the juice because the pulp might have vitamins that haven't been discovered yet." How right she was! And how well her approach has been supported!

Certainly it is possible that the teacher's feelings about herself and about her pupils may mediate her behavior in ways she senses but which researchers have not succeeded in specifying. When teachers are drilled to do this or that, without regard to the social context of the behavior, the teacher's feelings about the behavior, or the meaning of the behavior to her students, we are deeply concerned that what is eliminated may be more important than what is retained. Eliminating the complexity (of perceptions, situation and meaning) is certainly simpler for the investigator. At the price of some lack of apparent "rigor," we have chosen to retain the complexity, and to examine the complexity later rather than to risk throwing out the baby with the bath water.

Eventually however, when enough is known about the important components of the interaction, some aspects of an "outside" approach may be appropriate. One long-range objective of this series of investigations is to discover what kinds of teachers, in which situations, elicit what responses from which students. Hopefully, a variety of operational definitions of "effective" teaching behavior, will be derived eventually, all multi-dimensional and specific for different teachers in different situations. At that time, it might be possible to use an "outside" method systematically.

A second approach might be called the "inside" approach: an attempt to provide for the teacher a climate of "unconditional positive regard" with one other person (usually a psychotherapist) through which the teacher can find her own way, become aware of her motivation, her own limitations and potentialities, accept herself and move toward becoming a congruent person. Presumably, as the teacher becomes more aware of herself and others, more aware of the resources available to her, she will spontaneously make decisions which serve the goals she can then set for herself.

This "inside" approach seemed to us, on the basis of our previous observations, to be necessary, both for data gathering and for behavior change. At the same time, contact with one other person, such as a psychotherapist, seemed too limited a plan and too costly in time during preparation and available personnel. At first we had attempted (in 1961-1962) to supplement counseling for each teacher with opportunities for self help. For example, each teacher had tape recorded her own teaching and listened to her tape in the hope (our hope!) that she could, herself, become aware of the ways in which she interacted with students and of her unused potentials. We found, however, that mechanical feedback (tape recording listening) without personal feedback to accompany it, tended to encourage perseveration in whatever behaviors were already being used, but that when teachers listened to tapes and also received some personal comments from others about the taped performance, they were able to use the mechanical feedback more productively. Thereafter, the tape recordings (and, in this study, films) became another stimulus which focused the teacher's attention upon herself as a teacher and as a person.

The purpose of the assessment feedback then, was to supply a climate in which the teacher could confront herself as a person and bring to conscious awareness potentialities of which she might otherwise remain unaware. The behavior feedback was an attempt to focus attention, within the context of an ongoing relationship, upon the "person-in-the-situation," (here the teacher in the teaching act) and to bring to conscious awareness potentialities which the person had as a teacher.

Beyond this, however, was the actual situation in which the teaching would be done. We had observed that teachers who had (in our clinical judgment at least) become ready to implement new-found potentialities, were prevented from acting upon them in their student teaching because of obstacles in the situation, i.e., things which came between them and the students. In addition, new, untried behaviors are often executed poorly. At first we thought that situations needed to be manipulated so that the new teacher who was trying out new behaviors needed to have nearly "ideal" student teaching situations if they were to risk themselves. In some cases this was necessary. In one case, a class was "structured" into silence (very temporarily we might add) to make it possible for a scared but potentially confident teacher to begin teaching. But we found that information about the situation often sufficed, so that if the teacher could talk (with her supervisor or her counselor) frankly about the obstacles in the situation, she could get some consensual validation about her perception of the situation and implement her personal gains (or consciously limit her goals within the context of the real situation) instead of "refreezing" back into the old mold.

Consequently, we took neither an "inside" nor an "outside" approach, but used instead a leapfrog process which might be called a macro-feedback approach. The first focus was the teacher as a person (through assessment feedback, the test interpretation and follow-up counseling in the context of an on going human relationship). The second focus was the person as a teacher (through behavior feedback, the film viewing with a counselor in the context of the on going relationship). The third focus was the teacher in the real, varying situation (through situation feedback). Here the teacher was either placed in a facilitating situation or else the teacher had an opportunity for feedback about the situation and her interaction as a person with the situation from her supervisor or her counselor.

At each step of the way, the teacher's insights were crucial. For us as counselors, each teacher was a new and strange country we had never explored, and could not explore without the teacher's help. We had been in other countries before, and could if the teacher wished, point out something of interest from our other journeys. But she was the best authority on her. We might say, "There is a palm tree, this is a warm country." And she, if she wished, might say, "No it's really cold here. That's just a potted palm." Ideally, each step was a mutual discovery. At least this was our purpose. How well this purpose was accomplished we will begin to know only after the treatment records have been quantified and analyzed, a procedure now well along but not yet completed.

Assessment Feedback Rationale

The purpose of assessment feedback was to search with the teacher for herself and for the sources of her behavior and feelings. It was not to explain what these sources were, but to supply hypotheses, to point out "dead-end streets," to guide the search by sophisticated assessment of samples of spontaneous responses to psychological instruments.

We hypothesized that if this exploration were successful, if the teacher could become aware of herself and her motivation for behaviors which she considered fruitful or self-defeating, particularly if insights were self-validated (i.e., by self-discovery or an "ahha" recognition of the insight), then a "mirror" might be helpful in translating insight into behavior change.

Behavior Feedback Rationale

The "mirror" was the film feedback. It was not expected that by itself one film viewing would produce change in long-established behaviors. A case in point is the teacher who was observed giving a disproportionate amount of attention to one pupil in her class and, when informed about the frequency of her responses to this child, consciously attempted to give more attention to the other students rather than just this one. When next observed, she gave more individual attention to all her students, but still gave a disproportionately greater amount of attention to the same child! Behavior feedback alone is probably insufficient to effect enduring changes in interactive behavior. We reasoned that behavior feedback might enhance the effects of assessment feedback by linking the motivational sources of the behavior which had been the focus in assessment (counseling) to the interactive behavior itself, as it occurred in teaching.

Situation Feedback Rationale

It seemed likely that the amount of change possible might be limited by the situation in which the behavior occurred. New behavior is untried and often poorly executed. It seemed less likely that a teacher would attempt new behavior in a stressful situation, especially one in which she was being evaluated. Clinical observations in the MHTE study supported this notion. Both the class taught and the cooperating teacher seemed important influences on the freedom the young teacher had in attempting new behaviors. The cooperating teacher was the more important of the two to the student teachers themselves. A "good" cooperating teacher could impose as severe restrictions on the student teacher as a "poor" cooperating teacher, particularly if the "good" cooperating teacher had an emotional investment in the success and affections of her students. In addition, different student teachers establish different kinds of relationships with different cooperating teachers. Student teachers in the clinically oriented MHTE study reported that this relationship was often the most crucial determinant of their freedom to change. The relationship was often not understood by the student teacher. She reacted to it spontaneously but often without awareness of her feelings or their influence on others.

The situation feedback treatment was designed partly to provide a situation which was maximally facilitating for student teacher improvisation and change (not necessarily an "easy" situation). It was also designed to help the student teacher become aware of the relationship, to verbalize the contribution she was making to it and to assess its effects on her teaching and on her freedom to change.

Two General Aims of Personalization Treatments

In summary, the first purpose of the personalization treatments was to maximize freedom to change within the person and within the situation. The second purpose was to help young teachers resolve concerns about themselves and their own self-protection with the hope that they would become concerned with their students.

It will be recalled that five concerns stages had been empirically derived in an earlier study and these seemed to occur in a hierarchy. Early concerns were with self-adequacy (the teacher's place in the power structure of the school, her ability to control the class, her subject matter adequacy and her supervisors' evaluations of her). Later concerns were with student response and student learning.

We reasoned that, if concern with self had to be resolved before teachers could become deeply concerned with others, including student learning, teachers needed help with concerns about themselves. Consequently, the second purpose of the feedback treatments was to help teachers resolve concerns about themselves. The psychological assessment feedback was therefore conducted as a counseling interview and teachers were given an opportunity to continue counseling if self concerns needed resolution or if they had intrapsychic or interpersonal problems.

The counseling was not intended to be merely supportive however. Its objective was as complete utilization as possible of the teacher's capacities as a person. We found much to support Freedman's recent characterization of college students as "unsophisticated, conventional and stable, rather more in need of being stirred up than calmed down." As will be seen, the assessment feedback was an opportunity for the teacher to assess her own capacities and to set goals in terms of these capacities.

How were these purposes implemented? A precise description of these three treatments is being derived under a new grant by coding case notes of assessment feedback and counseling sessions, tape recordings of film feedback sessions and case notes of observations of cooperating teacher - student teacher interaction. Although this precise description is not yet complete, treatments will be described generally here from these records. These, however, are the treatments as they appeared to the psychologists and teachers participating. Further analyses are being undertaken to discover (1) whether treatments were as perceived and (2) which components of the treatments were related to observed changes in personality and behavior.

Description of Assessment Feedback

Each teacher in the assessment feedback experimental group met with a counseling psychologist at least once. These sessions ranged from 20 minutes (in the case of one teacher who didn't want the conference and of one teacher whom we might term a "transparent" self) to 20 hours over a two-year period for one teacher. The average was approximately one and one half hours.

Before the assessment feedback session, the counseling psychologist reviewed the test battery the teacher had completed and wrote a clinical description of the teacher as she appeared to be, based on her own responses. This description was an array of hypotheses which could be checked out in the actual interview. The psychologist used a method of internal consistency: each hypothesis was checked against subsequent responses, supported or modified by subsequent responses; new hypotheses were added and modified or eliminated as newer, better supported hypotheses emerged.

Although a specific example of a complete protocol and its clinical assessment might be enlightening to the reader, it seems to us that ethical considerations do not allow complete reproduction of a protocol of a single subject in the study. However many students took the same tests and what follows is a partial protocol with some changes to disguise the teacher's identity. Accompanying it are some of the psychologist's notes based on the protocol.

Protocol responses	Clinical hypotheses
Manner in which all responses are written suggests great precision and attention to detail (printing, round childish hand). Writing does not deteriorate but maintains same quality throughout.	Suggests rather strict control of impulses.
Father: Education & training (a well known out of state military academy with extremely high requirements)	Father may have high standards for children, be strict disciplinarian.

Father's age: 39 Mother's age: 39	She is eldest child; parents young at her birth, probably while they were still growing up themselves. Likely to have placed demands on her to assume responsibility early, particularly since father probably away much during WW II.
Next younger sibling: 5 years younger	She was 5 when younger sister born. What is their relationship?
5 younger brothers and sisters close together	How much responsibility did she have for younger children? Hostility about this? Possible she had to grow up early, make a swift transition from childhood to adult responsibility. Suggests impulse control.
Lists three "serious illnesses." Headaches: seldom. Skin disorders: not now. Back trouble: seldom. Stomach trouble: not recently. Other items (hay fever, asthma, allergies are responded to with an unusually large "NO").	Suggests both somatatization and denial of it. Possibility anxiety is handled this way. Might expect some illness during student teaching if achievement expectations are not met.
Favorite high school subjects: typing and shorthand	Subjects where there are definite standards of correctness.
Best trait: good grades Worst fault: worrying about grades Least liked subjects: homemaking	Achievement apparently is a defense against anxiety, but defense isn't working well; is it because there isn't anything else to rely on?

3

Activities: (many listed)	No; plenty of social involvement. Is it on a deep, personal level or another kind of achievement? May see herself entirely in terms of product: worthless as a human being unless she can produce?
Choice of jobs: teaching first grade	Taking care of the younger children might have been a satisfying emotional relationship in which she felt worthwhile. Because of her superior academic achievement, tendency might be to place her in upper elementary or junior high school. Doubtful she could handle that. Discuss strength of this preference with her.

These hypotheses of course are very tentative, based on scanty information (a few items from the Biographical Information Form), but other information on the Biographical Information Form which is not included here, supports the tentative notion that achievement is necessary to this young teacher. Her responses to the Sentence Completion, Directed Imagination Test, Thematic Apperception Test and Self Report Inventory support the notion that, although academic failure would be unthinkable to her, academic achievement is still of little value.

She denigrates its importance and longs for personal relationships which are unrelated to achievement.

In preparing for an assessment interview with this teacher, the counselor considers not only how the teacher responds to the tests but also how the teacher is likely to respond to the assessment interview and to the counselor. We might anticipate that this teacher's responses to any assessment will be extremely guarded and that the first order of business will be to establish a trusting relationship. Consequently, "assessment" as it is generally conceived, by the layman, i.e. telling a person what he is really like, is inappropriate here both because it will be too anxiety arousing for the teacher and because of the tentative nature of the hypotheses.

In the protocol of another teacher, responses are carefully printed on the first page, written with some clarity on the second, and then become more jumbled and indecipherable on subsequent pages. A picture emerges of a bright, imaginative 22 year old teenager, well satisfied with getting by, who wants to teach "for a year or two maybe" but is essentially seeking a berth as comfortable as the one she perceives her mother has. She says she can "take it or leave it alone."

In this case, the counselor may decide on a quite different approach: saying these are the realities of teaching, its complexities, requirements and the kinds of rewards and punishments you might expect from it. He might ask, "Do people take you seriously?" "Will the students believe you mean what you say?" "How will you react if life isn't easy?" The film feedback would provide validation for both this teacher and her counselor. This teacher might be disabled by her playfulness and end up fruitlessly pleading for order. On the other hand, the teacher might be able to put aside her need for immediate gratification, for being "liked" by her class for example, in the service of a more mature, long-range relationship with them.

The important point is that the assessment was a shared experience in which the counselor attempted to see the world, and the coming teaching experience in particular, as the teacher saw it. In addition, the counselor tried to see the assessment as the teacher saw it, as a threat, an opportunity for abdication of responsibility or an opportunity for exploration. We anticipated that some teachers would disregard the assessment as trivial or irrelevant, but clinical impressions of exit interviewers were that this did not occur. In their exit interviews teachers reported varied attitudes toward assessment from enthusiastic to angry or baffled, but the assessment seems to have been rarely regarded as trivial.[7]

The following excerpt from still another teacher (T) and her counselor (C) may communicate the flavor of these sessions.

T: I'm sorry I couldn't come for the interview last week. I had a terrible cold.

C: It was really bad?

T: Well I had a temperature. But I needed the time to catch up. I'm behind in everything. But I really was sick. I can tell when I'm really sick because I just don't care. I can just fall in bed and not worry about the things I have to do.

C: Not just sick, but tired too.

T: I've always needed a lot more sleep than most people.

C: So do I -

T: I take vitamins every day. I don't eat breakfast but I eat, you know, everything.

C: Good meals.

T: But I am tired. Right now I'm tired all the time. I go home and get my blood tested and it's not anemic. But I get so tired of being tired. You just get sick of it. So I just - I just keep telling myself it's because I am in college because it has just been this last year, just dead tired all the time.

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[7] Like other conclusions from interview data, these are still clinical impressions which may need revision or amplification at a later date.

C: Even when you wake up in the morning?

T: Yeah, I wake up tired. My roommate and I both have trouble getting to sleep lately. She's real worried because she doesn't know what she is going to do with all those children with problems like she's never had before. In fact, the other night when I was up all night with my fever, she kept talking in her sleep about modern math and stuff. She was so funny. Most people talk in their sleep about people or something and here's Sue talking about modern math. She's so cute though.

C: When I do something like that it's because I'm worried I'm not going to be able to meet the, you know, the situation.

T: It's just like this week: you know, I missed school and Mrs. Murray told me to have all my lesson plans done a week ahead of time. Well, I have it all planned out what I'm going to teach but as far as a specific lesson of all the details - I didn't get a chance to do that. I spent all week-end doing bulletin boards, you know, I didn't even go out all week-end, I stayed home. You know what a beautiful day Saturday was. I wrote a paper, I was so tired when that week-end was over. I got up and uh, you know, I went out to school at 7:00 to put up my bulletin boards before the kids got there and everything and I just didn't have time to do them all, and then, I'm sure the first thing she's going to say when she finds out I wasn't there "Oh since you were sick Mrs. Smith could teach your lesson even though you weren't there. Your unit could go on without you, you know."

C: Yah-yah-yah-yah.

T: I mean, she's always that, like on bulletin boards "Oh, haven't you just enjoyed your teaching." She's just so enthusiastic, you know, I think it's just fake, I really do. I think she's trying to put up an enthusiastic front, so I can't begrudge her, I can't get mad at her. It gets on my nerves after a while so bad.

C: Because it's so phony you can't be honest with her because she's not being honest with you.

T: You know there's going to be days when you're not going to have anything planned and you're going to have to walk in there. I'm trying to. Mrs. Smith is always trying to make me do things on the spur of the moment. She'll say why don't you do such and such in front of the class. It used to just terrify me at first, you know - now it doesn't bother me that much because I've trashed it so many times in front of the class anyway. (Both laugh). They thought it was hilarious when I walked into the coat closet last week. I was trying to find my way out of the building. Everytime I try to do the projector the film rolls off on the floor and they get a big kick out of that. It doesn't matter too much what I do.

C: It's all right to make a mistake now and then - it kinda makes you more human, huh?

T: Oh yes, I'm very human. In fact I'm having trouble with a couple of them right now. One boy is very bright and I've tried to respect them and let them know that I feel that they are real capable students and I've been trying to get them to do just little extra projects and I've talked to them just like I talk to you or anybody else, trying to let them know that I respect their intelligence, so it's kinda gotten to where we're too much pals - you know, like one of them said, "Hey, come here." You know, when he wanted help with the test he was taking. Mrs. Smith said it was O.K., she could stop it anytime she wanted to, but I don't think it's her place. I mean it would just make me look bad if she said, "Now don't pick on Miss X."

C: You feel like you need to stand up for yourself.

T: Yeh.

C: But it sounds like what Mrs. Smith is trying to do is to get you to loosen up a little. To be yourself.

T: Yeh.

C: I believe you're letting those kids into your personal life, and letting them see you as you really are.

T: Yeh, I guess. I don't know just how much I am.

C: It sounds that way to me.

T: I just really didn't know what to do with them.

C: You were frightened.

T: Yes, I was frightened and I was miserable and so I just kinda went along and did the best I could. But I'll sure be glad when it's over with.

C: But you know, X, whenever you're talking about the class itself and what you do in it you laugh and say what fun it is and what they said and what you did and about the ---- and all, you sound so happy about it. And then when I say to you, well you're letting them see what you're really like, it's like all the things you did disappear. That they like it you know, you have a good time with them. And then when you start to think about what kind of a person you are, then somehow or another you think to yourself that - that makes me said, or-

T: That's what I'm trying to tell you. I go home and try to tell my parents about all the funny things that happen, I entertain everyone at coffee break -

C: You mean that's just a false front that you put on?

T: I don't know whether it is. What do you think it is?

C: I think that when you tell all those funny stories and everything, you're telling what you really are. That this is what really happened, this is the truth, and then you tell me your picture of yourself - the way you see yourself, and then that always turns out to be bad. It's as though other people think a lot more of you than you think of yourself - the kids, Mrs. Smith - the whole kaboodle of us.

T: But then why do I break out in hives? I'm nervous and talk too fast anytime like - let's see - like C. - I cannot stand to talk to him - I don't know why he scares me. But he tries to get too personal. Like I don't know what it is about him but I just about break down in tears and I have to really fight to keep my voice from cracking and it's like I went to the doctor and he kept saying do you have a runny nose with this, and I kept saying, no. And he said are you sure, I was sitting there sniffling, with a Kleenex, blowing my nose and I kept saying, no, I don't have a runny nose. And finally I said, 'Look I'm just upset.' He looked at me kinda funny and I thought maybe that sounds kinda funny, so I had to explain I didn't have time to be sick. He kept saying 'Are you sure you don't have a runny nose?' I ought to know if I had a runny nose or not - whether it was a cold or whether it was because I had been crying. I mean...

C: You're the best authority on you.

T: The poor man. He probably wondered what in the world was wrong with me. That's what I hate.

C: There used to be a time when you couldn't cry at all.

T: That was last year. I guess I had rather have that than this going around crying all the time. I feel like I must be abnormal. You didn't tell me what you found out in my tests then. Was there something in my tests that made you think I needed you?

C: Yeh. It sounded like you were calling for help.

T: In my tests it did?

C: The way I read them. It sounded to me like you were ready to talk to somebody, almost like you didn't even know you were but you were ready to get a lot of things off your chest.

T: I thought - maybe - you know - maybe you thought -

C: Maybe you looked abnormal?

T: Uh huh.

C: Well I'll get them back out again and just read to you exactly what I wrote down before I ever saw you. Would you like to know what that was?

T: Yes, I would be interested.

C: As I recall it now, I thought to myself this is a girl who tries - tries to make up for her feelings of being inadequate by working harder and harder.

T: Yes. (Pause). But I don't see how you could tell that from those tests. You mean those pictures that we wrote about?

C: I'll go over it with you - I'll just think out loud the way I did the first time so you can see what my thinking was about and everything I thought.

T: Maybe that is why I'm so tired all the time.

C: Cause you're rushing and sitting still.

T: (Blowing nose). And what's so funny is that when I get really tired - that's when I get sick, you know.

C: Well, I think that the only excuse you have for resting is to get sick.

T: True. (Pause). But I can't get sick. We aren't allowed.

It is not possible to convey the full flavor of these sessions, both because of space limitations and because ethical considerations require elimination of pungent, but possibly identifying details. The main point which we wish to communicate is that the assessment was a joint venture to which both the teacher and the counselor contributed. Teachers frequently "pushed back," i.e., when the counselor offered a tentative hypothesis, the teacher was doubtful, felt it was not relevant, or denied it and offered evidence for her stand. Usually, however, the counselor waited until the internal consistency of both the assessment data and the teacher's behavior brought them both to the same conclusion.

It should be emphasized that the hypotheses were often of the "no problem" variety, for example, discussions of the teacher's potential strengths or natural teaching style and how these could serve what she perceived to be the goals of her teaching.

Problems Young Teachers Express

How do young teachers present their problems themselves? A randomly selected sample of interview case notes turns up these comments:

> I can't draw or sing - absolutely no talent for primary.
>
> Dying to date, but no one gets me any dates. I'll probably be an old maid teacher.
>
> I spend all my time thinking what I will say and don't listen.
>
> I tried to look good on the tests so how can they tell me anything. That's what I do with other things.
>
> My father tells me not to tell my mother; I am in the middle.
>
> I have concentrated all my life on grades when people are really important.
>
> I've pleased other people, never myself.
>
> Everytime I get up to teach my eyes water (or I get laryngitis, stomach cramps, headache)
>
> I've tried and tried to find out what my IQ is and no one will tell me.
>
> What I really want is a fast car and an apartment in New York. How did I ever get into teaching!
>
> I freeze up when a boy comes near me, then I go home and have a terrible dream about someone attacking me.
>
> Being a freshman was a nightmare. Teaching is almost as bad.
>
> Is it normal to get mad at people who look down on Education? They make me ashamed of being in it.
>
> I've been taking reducing pills and No-Doz ever since I pledged the sorority. I get so nervous when I take them and then gain weight when I don't.

Sometimes I feel like screaming but I never let my hair down.

If I don't get off 'scho-pro' this semester I'll never make it.

My whole family are great talkers. I just can't seem to stop.

I got mad when you said you can't analyze a person without their help. But I'd get mad if you did.

They don't really like me in the house. I just keep up the scholastic average while they don't care about grades.

My husband was so mad that I got a B that he slapped me.

When teachers' problems were so openly presented, the counselor could of course respond in terms of these problems. Often this did not happen and the counselor introduced the problem on the basis of the clinical assessment.

Clinical Assessment and Teaching Behavior

Certain patterns were observed with some frequency, and in the previous MHTE study, they had appeared to be related to reported difficulties in the classroom. At the risk of over-simplifying an overgeneralization, some of the patterns which seemed related to classroom problems are summarized as briefly as possible, using the various counselors' clinical impressions from protocols and supervisors' comments about classroom behavior:

Clinical Comments	Teaching (Based on additional data)
placid refusal to get involved	sketchy subject matter preparation; ignores discipline problems
unthinking, superficial, getting married will fix everything	rote memory content presentations, tired in the morning, grades tests inconsistently
thinks of herself as a child	plays with students as a peer, dependent on student liking, makes inconsistent rules
out of contact	"TV" teacher: teaches as though students are not there
avoids conflict	sugary; worries about noise; denies problems, imitates cooperating teacher.
stimulating, talkative, energetic	stirs competition among students; high noise level
eager for sexual experience and afraid of it	favors boys over girls (or girls over boys); has "pets"
standards not internalized; hostile but conforming	makes many rules; punishes small infractions; strict
passively hostile	forgets; blames students; complains while denying complaining
content oriented	"travels": covers material whether students keep up or not.
copes with stress by activity	children do many exercises to records; busy atmosphere; no rest periods
perfectionist, afraid of being wrong	works late on bulletin boards; chalkboard writing gets much attention; much time spent on attendance records, etc.

Clinical impressions from one protocol	How psychologist presents impressions	Teacher's Response	Supervisor Observations
Upwardly striving from lower class family.	Means a lot to you to do well in college and in teaching.	Taking 18 hours and self-supporting.	When tendency to procrastinate was pointed out, brought in reams of material.
Determined to rise.	Ambitious.	People are tolerant of me. Overlook a lot of my faults.	Prepares without thinking what students will learn.
Possibility of even small failure hard to take.	Conscientious.	I never get mad at criticism.	Looks to cooperating teacher for suggestions. When c.t. suggests, she feels she has been reprimanded in front of the class.
Key words organized, tired	More pushed for time than other students.	When someone criticizes one thing I think the whole thing is bad.	Needs glasses but can't afford them. Getting more and more stooped.
Depressed angry at self for not being self-assured like more prosperous students.		Too conscientious sometimes	Class blatantly disregards her directions. Even then, keeps trying to stimulate them with more material and activities. Never puts foot down.
Controlled emotionality.			
Sensitivity to pain, to suffering child. Protective.			

Clinical impressions from protocols of 4 different teachers	How psychologist presented impression to teacher	How teacher responded to psychologist	Apparently relevant behavior
1. Hostility to sister	Your sister has been an influence on you?	I watch my sister and notice her mistakes. I try not to make the same ones myself.	Critical of female cooperating teacher.
2. Impresses others instead of relating to them.	Important to you what others think of you?	Try to keep up my appearance. Definitely don't want to teach young children. Don't want to be responsible for character molding. Am very enthusiastic.	Likes to do public speaking. Told supervisor the test conference nearly made her flunk out of school, it was so bad.
3. Unconsciously resistant to authority. Severe upbringing.	You have tried to do what was expected of you.	Training has made me what I am. College has broadened me but also given me many bad habits.	Taps pencil often for emphasis. Tells junior high students they have too much freedom, no notion they must study and learn.
4. Narcissistic concern about body, health	Not sure your health is good enough to stand the strain of teaching.	No, I can always tell when I am going to get a headache or get sick.	Absent because of a "blood disease." Dramatizes lack of discipline. Says kids run wild.

Appropriateness of Counseling for Teachers

In the larger MHTE sample some disabling problems appeared. These included alcoholism, depression, suicidal wishes, overt homosexuality, psychopathy, withdrawal and schizoid reactions. Such patterns reappeared in the smaller PEB sample.

In both samples there were also individuals with unusual ability to devise original solutions to problems, to withstand stress, to persist despite obstacles, to turn problems into opportunities. From such individuals, we learned much about the potentialities of the classroom as an agent of therapeutic change for both students and teachers. There was for example, the boy who set off a smoke bomb in class and the teacher who, after making sure the students were unharmed, had him do some research on the effects of gases on human tissue. The records of these interviews are worthy of more precise analysis both because they shed light on teacher problems and because they document teachers' ingenuity in coping.

The counseling interview records indicate most students would not have sought counseling voluntarily; that an overwhelming majority took advantage of the opportunity not merely by presenting themselves (which all did) but by viewing it as an opportunity for self-understanding; that teaching is, as Shaplin has pointed out, an extremely stressful task; that teachers often "look sick" or undergo great psychic pain, as people under stress, otherwise comfortable people, often do. Our preliminary conclusion (preliminary to completion of follow-up on-the-job interviews) is that teachers are in need of "counseling." We came to feel that if a choice had to be made between providing counselors for students and providing counselors for young teachers, we would choose the latter, if only because so many student problems are related to teacher problems and unrealized potentialities.

There are other reasons however why student teachers need this kind of communication. Student teachers, and probably all young teachers, in self-contained classrooms, feel alone with their problems. They are denied adult companionship for a greater part of their working lives. Their problems are complex and their opportunities for non-evaluative, frank, professional communication are few. At the same time, they are, as a group, responsive to feedback in a confidential, professional setting. Our conclusion based on the behavior of prospective teachers within the counseling interview is that prospective teachers are probably, of all undergraduates, both the most in need of, and the most accessible to, assessment in counseling.

This conclusion is supported by research in counseling and psychotherapy. At the risk of overgeneralizing, we might say that the clients who seem most amenable to psychotherapeutic assistance are those who are young, bright and in pain. Prospective teachers are, as a population, both young and bright. Our experience in this and preceding studies testifies that many are in pain, or at least under situational stress. In addition, counseling is generally perceived in our society as more appropriate for the young: there is less onus attached to it then. Subsequent attempts to treat in a similar way groups of older teachers support this conclusion. For beginning teachers, at the start of their preparation, assessment counseling seems to us to be the acceptable treatment at the right time in the right place.

Description of Behavior Feedback

All prospective teachers presumably receive some feedback about their teaching behavior. Supervisors, cooperating teachers, instructors and observers have conferences with teachers-in-preparation and these conferences probably vary widely in their content and their usefulness to the teacher who is observed.

The behavior feedback being discussed here differed from the usual teaching critique in two respects: the behavior being examined could be observed by the teacher himself as well as the supervisor; the teaching could, when appropriate, be related to its motivation by the psychologist.

In the present study, all teachers who received behavior feedback had already had an assessment feedback session like those just described. Each teacher first was tested, was next filmed and then had an assessment feedback conference with the counseling psychologist. Sometime after the counseling session, the teacher saw her junior-year film.

Secondary subjects saw only this junior-year film. Although secondary subjects were filmed during student teaching, they did not, because of scheduling problems, see this second, senior-year film.

Elementary subjects however did see both their junior-year film and their senior-year (student teaching) film. Final post testing, using the psychological battery, was done after this second film feedback session.

Consequently, there were two important differences in treatments given elementary and secondary subjects. First elementary subjects saw both their pre (junior level) and post (senior level) films. Second, the secondary subjects' pre-film was of a role playing situation and not of an actual classroom with real students. This role playing film was the only film secondary subjects saw. In summary, secondary subjects saw one film themselves in a role playing situation whereas elementary subjects saw two films of themselves, both in a real classroom with real pupils, taken 12-18 months apart.

The teacher, the supervisor and the psychologist usually saw the film together. (In some cases the supervisor could not be present.) Before the film viewing, the supervisor and psychologist might review the teacher's situation and estimate how much support would be appropriate, but in the main they "played by ear" during the session itself. The psychologist did not reveal teachers' confidences from counseling sessions, but he did sometimes relate insights from tests to filmed behavior during the discussion which followed the film viewing. Any pre-film discussion between supervisor and psychologist, as well as the feedback session itself, was tape recorded.

In giving examples of behavior feedback sessions, the same safeguards regarding confidentiality will be observed as with the counseling sessions, i.e., some changes have been made to disguise the identity of the teachers involved and passages have been selected which are not idiosyncratic.

The following excerpt from a film feedback session at which the teacher and counselor were present may convey the flavor of these sessions.

The teacher had already had assessment feedback - in this case one converence with the same counselor who was present at the film feedback. The teacher is a bright, upper-middle-class girl from a professional family whose members have avid intellectual interests. Initially, she anticipated no problems in her teaching and looked forward eagerly to it although she had some doubts after assignment about some limitations placed on her in the classroom. She watched her film without comment and reacted instantly when the film was over.

(Student is S, psychologist is P.)

S I look terrible...I did in that other picture too (her first film).
P Oh, did you?
S That other picture...It's terrible. I never realized that I looked that bad. I really do look terribly uninterested and sad. You know, that worries me. I don't feel that I'm never smiling. I don't feel I'm that way when I'm conducting my class. Maybe I just have a different picture of myself, because I don't picture myself as being that...you know...
P Serious
S That's it, definitely not that serious. And I'm sure it has an effect upon the children.
P I guess I don't think that you are all the time, Dale. I think that you are only that way when you teach.
S I must be.
P In fact, in my usual conversations with you, I've noticed that you're much more vivacious, than you are when you're teaching. And I can't help but wonder whether you're not bored with it.
S Oh no, I'm not bored. Well, this unit was not very exciting. That might have something to do with it.
P You looked a little bit disdainful toward the children.
S No, I don't feel that way. But it does worry me, because I feel if I'm that serious with my children they cannot enjoy it. Now I was quite critical of this particular unit with them because I was not particularly motivated and therefore I'm sure they were not. Now they enjoyed it surprisingly.
P Your presentation was just right on target as far as I'm concerned. You appealed to them; you found out in the beginning what it was that they already knew about it; you presented it to them in a way that they could feel it, and

touch it, and see it, and everything. Obviously they were all fascinated with it. You hit just right, where you should have. You were teaching them not only about machines, but you were teaching them to read, and teaching them some physics. You know, just all kinds of things. So as far as all of the intellectual comments and aspects of it were concerned it was fine, really very excellent...and yet you just seemed so miserable.

S So drab...I don't know why. I don't *feel* that way.

P Maybe it was just the film.

S No. I noticed that the other film was that way. I wish that I could be filmed three times more. You know, so I could see if I'm that way.

P Have you gotten any feedback from Dr. ____ about that?

S She says that she has observed that when she comes in that the classroom atmosphere is wonderful. She likes the way I teach. She likes the way I present things, the atmosphere in the class. The children are happy...I don't see how they could be happy if I'm that drab all the time. I really don't. That's why I wonder if I am...It really worries me.

P You know, Dale, I kind of think though that you're...because we've talked about this before...you live within yourself a great deal...I think. And it doesn't matter too much to you whether you...let me see...You don't give people a lot of help in communicating yourself to them...If you feel like smiling you smile. But if I need you to smile you're not going to smile.

S (Laughter) That's me. Uh-huh.

P And this is fine...What?

S It all depends if you ask me. If you ask me I might smile.

P Yeah. Well, but you know people sometimes ask in nonverbal ways.

S Mm-huh.

P This is usually the way they ask. The way they ask is by saying, you know, by looking sad. A sad look is a request for a smile.

S Mm-huh.

P And most of our communication with one another is this way. And we're reassuring people who...Now I don't say that this is bad. In a way this is very good. It gives people a chance to be themselves.

S Mm-huh.

P So that I don't react as adversely as you do to this, here.

S Mm-huh.

P Because with you I feel...well, you know...you don't need *me* to be anything except maybe what I just feel like being because that's the way you are.

S Maybe it is good, but I don't feel that this is very good, this filming...if I am this way all the time.

P I'll tell you something else too. I felt that part of the children's responsiveness was to kind of get you in a good mood.

S Maybe so. Maybe that's the way they reacted to my mood, or, the way I was conducing my...

P Mm-huh. I kinda had the feeling I wanted to say something bright, or a little different, so you would get a little more interested.

S That could very well have been. I can see that. Well, if that's it, I definitely think they felt the way I felt about the unit. They sensed it because they do, and I think you'd be foolish to think that the way you feel or your attitudes do not affect the children because I think they very strongly do, and I'm sure they knew that I was not just overly-joyed, and I tried to be.

P Well, I have the feeling that whatever you are, and whatever you feel, shows on your face, and you do not try to put on. And this time (S laughs) you were tired, and bored, and it shows on your face.

S And that's really not very good though...I mean, in some cases it might be good. But in something like this where you're trying to teach the children something?

P I don't know, Dale. I think that what you are you just flat out are.

S (Laughs) And I think so, too.

P And you don't make any bones about it.

-LATER-

S ...Well, maybe this is good...But, as I say, I don't feel this is very very good. But maybe I'm not always like this. I don't know.

P Well, Dale, I'll tell you what I think. I think that maybe your difficulties in the classroom are an interaction between, or partly the result of your response to the environment.

S Well, in a way I feel this way too, but I hate to rely upon this. You know, I hate to accept this as, uh, you know, fact. And then not look, and see if I really am this way all the time. You see what I mean? I'd hate to accept this as being the basis of the problem and then something else actually...

P But you didn't hear me all the way...I said this is what I think...I'll spell it out. Miss X was there. Then Miss Y came in, and Miss Y's method of operation was different...

S Very.

P So this made you feel that the classroom atmosphere was, how would you describe it? ...Strained?

S They acted very well, better than I expected, but yet it was...strained...definitely. Because the class had an adjustment to make.

P And I think the children adjusted sooner than you did.

S I think so too.

P And I think your, sorta, chagrin, or whatever shows on your face here, was unconscious on your part; but you thought you were exuding, you know, happiness and light and everything. But actually you were looking like this. And she could see this expression on your face, which then made her more like she was.

S Yeah.

P See? And then, that made you worse.

S And that's very bad. But I think that...and I was talking to my roommate today and I'm just kinda perturbed at the whole situation. And, as I say, I think it shows a lot of my immaturity, but I think I oughta be able to accept it, and adjust to it, and I don't think I've adjusted to it as well as I should have...Sometimes you just feel like you do, and I just don't feel like I have. And a lot of it may be because maybe I haven't tried. Well, a lot of it is because I don't agree with a lot of what she wants, and you know I have an awfully hard time doing something that I don't believe in.

P Yes...Mm-huh.

S When she asks me I have an awfully hard time not telling her.

P Yes, and she isn't willing to accept as much frankness as you're willing to give her?

S No, not many people do. and I haven't always been this frank. For some reason the past couple years I've been quite frank with people, because I feel if they ask me they should get it...You know. But I try not to, uh, be too frank. But, as I say, something like this, working with children, when she asks me, I have an awful hard time not saying exactly what I think.

P Well, I think probably it works on both sides. On her side is her, uh, the difficulty accepting your frankness.

S Mm-huh.

P And on your side I think you had no trouble sharing the class with Miss X.

S No.

P But I think you have trouble sharing the class with Miss Y.

S Because I don't know where I stand.

P Not only that...She's kind of an interloper.

S Mm-huh.
P You know, she came in, you know, a newcomer, after you'd already been there.
S Mm-huh. True too. And as I say, yet I'm expected to be a full teacher, but yet I'm not. It's kinda awkward.
P It's just really ambiguous.
S Mm-huh.
P When you really don't know where you stand...Well, you got a problem there, Dale. And there's no possibility of you and her straightening it out?
S Well, there just five more days.
P Just five left to go, huh?
S That's right.
P You and she never talked this over, huh?
S I talked to her a little bit. I hate to say, uh, I don't care for the way she interrupts me constantly...
P You don't?
S No, I don't care for it at all.
P Yes, I know, but why don't you tell her?
S Well, I never felt like I could. (Pause). You see, I'm *not* quite as frank as I could be (laughs).

The remainder of the session was devoted to the teacher's attempts to work out her own feelings about the limitations of the situation and ways in which she might cope with them. Obviously, unless she could cope with that, there was little use in trying to teach her to smile!

A second example is that of a teacher who had had several sessions with the counselor both before and after seeing her film. She was, as she describes herself, a person for whom achievement is important and for whom being wrong is upsetting. In the film segment reproduced here, which she and her counselor have just seen, she gives the class directions and makes a mistake in the directions. (Teacher is T; pupils are P.)

T O.K., I'm going to give you the directions to find this place. First of all, 88 degrees south latitude, 110 east. Approximately 110 east, it's an island, so I can't give you just one.
P What was that south?
T It's approximately 8 degrees.
P 8 degrees?? You said 88.
T I meant 8 degrees. I didn't say it right. Approximately 8 degrees south. It's an island, a very famous island. The word for the island is synonymous with another word for coffee, and there's been a song written about it. O.K., what is it?
P Java.
T Java, the island of Java. Yes, Jim?
P Wasn't your latitude wrong? You said 8 degrees south.
T It's not? What is it?
P It's 8 degrees north, I mean about 10 or 12 degrees north.
T No, it isn't.
P You look, and you will see it is.
T Look on that one map, and don't look at it another way.
P I was in a different place.
T Well, if I was wrong, you should have corrected me, and this time I was right. O.K.

In a subsequent conference with her counselor, she expresses her new attitude toward this incident. In this case, the change she makes is not in her behavior, but rather in her feelings about this behavior. (Sounselor is C; Teacher is T.)

C One thing I noticed in this test material you filled out is that you're real introspective, in that you evaluate what you do, think about it, saying that well, I'm beginning to get too assertive, you used the word, aggressive.
T Well, my whole experience points toward that. Everything since I graduated from college would lead me to be introspective, I think, if I had the inclination to be anything. I think it would have naturally pointed me that way. I think it is wonderful, because I can't see doing things and having actions that you are not really aware of. In other words, if I am mad or something, I know I'm mad. For instance, Friday, I had graded everything wrong, I had made a mistake in my grading. My grading was proper, but the way it was done was not proper; I didn't know it. I had to go back and go through a lot of bother and it made me feel like an idiot. Fortunately, my co-partner

had done the same thing so it was the two of us. I wasn't alone in my idiocy. So I went back and changed everything. That afternoon I was gripy and fussy with everyone I talked to; I was very mad. I finally just admitted "Johnny, I have just made an idiot out of myself at school, and I was just mad. And I'll just be made all afternoon."

C It helps to have someone to talk to.

T It sure does. The kids one day in school, I'll always have the tendency to go uh-huhh. I did that one day and the whole class went uh-huhhh back to me! I just asked them, do I do that all the time? They said yes; I said well, I hadn't realized that it was quite as obvious as that. So I kind of, well, I'more open now to listen to people talk about me, and for me to talk about myself. Admit what I'm angry about, and it also appears very foolish to be mad three hours later about an incident.

C I think this is a big change in you in that you used to be kind of introspective, and it kind of had you trapped and now it doesn't. You can call yourself an idiot, but you didn't have the same feelings that you would have had a year ago.

T No, I take it a lot more in stride now than I would have a year ago. I used to be very, well, had to succeed at all costs. Be A-no.1. in whatever I did which obviously, not accepting my limitations, you know. And now, I can accept them, and feel kind of good that I have them.

Many other kinds of teaching situations arose: teachers reacted to their talking too much, to a class out of control, to a bored class. In films they saw students waving their hands which they had not seen while they were teaching. They saw themselves calling on boys and not on girls, ignoring student behavior of which they had been dimly aware. They saw themselves competing with their cooperating teachers for the approval of the class, arousing the anger of students or avoiding conflict or decision making. They reacted to themselves clutching a book or podium,talking in a vacuum, or downgrading themselves.

The list is long.

Teachers reacted to their films by focusing on minutae (their accents, clothes), and by other kinds of denial; by castigating themselves or looking for approval; by happy enjoyment of their performances; in short with the whole range of human reaction.

As was true in the assessment interviews, the behavior feedback conference was a mutual enterprise. Teachers could interpret their behavior in light of the total context of the teaching and illuminate the situation for the counselor. The counselor in turn attempted to see the taaching from the teacher's point of view. In addition, the counselor had seen the teacher in a previous interview and could interpret the teacher's behavior, both in the film and in the conference, in the light of a deeper understanding of the teacher which the assessment feedback had made possible.

Sometimes teachers related counseling insights to their filmed teaching:

T I was spouting facts in a vacuum. The students grabbed the facts as they went whizzing by. They were hollow receptacles which I was trying to fill with information. I understand what I am talking about which is very nice, but I didn't insure that they will understand. While emotions have nothing to do with mathematics, they have everything to do with the learning of mathematics. The only teaching I've done before was helping people with

> specific problems in their college math courses. They listened very carefully and did everything I told them. They did most of the work in trying to communicate. That spoiled me for this situation where the students didn't care about what I had to say. I think my problem is my strictly abstract approach to mathematics. My feelings about applied mathematics will make it harder to make the concepts concrete for the students, but now I am aware of this. If I can keep my prejudice against concreteness in mathematics in check on behalf of my students, it should not cause trouble. If I am not aware of these things, I am at the mercy of them.

As a result of the film feedback, the supervisor and psychologist were sometimes able to plan situations in which the teacher would have an opportunity to try out new behaviors. These are summary case notes about such a plan.

> Clinical comment is that Edra is repressed, controlled. Supervisor says: Edra plans so that every minute is accounted for; there is no room for flexibility. Cooperating teacher is conscientious, serious. "They are two grim people staring at each other." Supervisor remembers Edra's record indicates she is an amateur photographer. Will suggest she bring her Polaroid to class. She may feel sufficiently secure with this "built in" plan to permit some interaction. Psychologist and supervisor feel a more slipshod, or at least a less business-like cooperating teacher might encourage less tight planning. Psychologist will ask Edra about such a placement. Can anticipate that such a placement might upset her unless she understands its purpose.

Description of Situation Feedback

One group of teachers received situation feedback in addition to assessment feedback and behavior feedback. In one sense all the elementary subjects, both experimental and control received information about the situation. Elementary teachers, control as well as experimental, were assigned to the same school for both their junior teaching and their senior student teaching. Consequently, all the elementary teachers had had an opportunity to resolve, before student teaching, some of their concerns about the situation. On the basis of this knowledge, some requested and received placement in a different school. The secondary teachers in the study did not do junior-level teaching in the public school and consequently were not familiar with the school situation as were the elementary subjects.

However, one group of elementary and one group of secondary teachers were placed in student teaching situations which were estimated to be maximally facilitating for them on the basis of all available information about them and about the available classroom situations: psychological assessment of the student teachers, grade level preferences, supervisor's observations, film feedbacks, principal's assessment of the student teachers, grade level preferences, supervisor's observations, principal's assessment of cooperating teachers. When, as in the case of Edra, the placement was designed to accomplish some particular objective, the plan was worked out with the student teacher who often modified it and sometimes suggested a different strategy.

However, because of the requirements of the design, (similar university instructors, supervisors, schools and cooperating teachers for experimentals and controls), a limited number of situations were available in which student teachers could be placed. In addition, true "psychological placement" would have required information from cooperating teachers similar to that available on student teachers. Such information about cooperating teachers was impossible to secure within the limitations of PEB resources. Consequently, this treatment was less systematically applied than assessment feedback and behavior feedback. In practice, the student teachers whose placement was most carefully planned were those whose needs were most obvious. Student teachers who seemed able to benefit from a variety of situations were assigned to the other available situations.

However, all elementary teachers whose problems in junior level teaching seemed to be related to their teaching situation were placed in senior level teaching situations which were estimated to be more facilitating. The placement of Charity, an elementary prospective teacher is illustrative: (These are summary case notes.)

> Charity is a well-organized, work-oriented, rather humorless but empathic young woman. During junior teaching, she was assigned (a random assignment) to a lively, gay cooperating teacher, a young Parisienne who danced about the classroom, but could turn off the gaiety if the class began to get out of hand. Charity tried to imitate her cooperating teacher. She told the class a funny story while her cooperating teacher gesticulated from the back of the room, trying to help her to ham it up. No one laughed and at the end of the story, one boy asked "Was that supposed to be funny?" She was unable to discipline the class or to relate to the students, and eventually, was unable during her junior year to continue teaching. For her senior level teaching, she was assigned to a less colorful cooperating teacher: a warm quiet woman who felt that she and Charity were somewhat alike. In student teaching, Charity had no discipline problems and reversed her previously negative attitude toward teaching.

Such placement required some sophisticated assessment of both the student teacher and the situation by the supervisor who was generally responsible for supervision of the student in the public school and maintaining good relationships with the school. The supervisor and counselor conferred about the student teacher's needs and potentialities so that the supervisor could, with the school principal, choose a situation which would be facilitating for the student teacher. In many cases, the supervisor, counselor and the principal of the school conferred and made such placements jointly.

When such placement was not possible, the supervisor and counselor conferred about the effects of the available situation on the student teacher. The supervisor became a potent force by "interpreting" to the student teacher the limitations inherent in the situation in the light of the student teacher's needs, thus providing needed support to the student teacher.

Illustration of Personalization Treatments Sequence

In order to show how the treatment program appeared from the point of view of the prospective teacher, the temporal sequence may be illustrative: (E is the elementary subject, S is the secondary subject, i.e., the undergraduate prospective teachers.)

Early Sept. 1964: E and S take assessment battery required of all prospective teachers.

Mid Sept. 1964: E and S register for beginning professional courses. (Sections in which they register happen to be on AF+BF+SF experimental sections but this is not known to them at the time.)
They take additional tests.
E. is assigned (unplanned assignment) to school X and observes and teaches two mornings a week for one semester. (Elementary only)

Early Oct. 1964: (Elementary only) University instructor is filmed teaching University class. All subjects appear in the film. Class (including E.) see film. Instructions for filming in public school are distributed. E. and supervising teacher sign up for filming date.

Oct. 1964: (Elementary only) E. is filmed (pre-filming) in public schools.

Oct. 1964 (Secondary only). S is filmed (pre-filming) teaching peers in role playing situation in the University classroom.

Early Nov. 1964: E and S. have assessment (counseling) feedback sessions with counselor.

Mid Nov. 1964: Both have film (behavior) feedback session with supervisor and counselor.

Jan. 1965: They have follow-up counseling session with counselor in which strategy for student teaching placement is discussed.

Sept. 1965: They are placed in student teaching situations. (This is result of conference of supervisor, principal and counselor but E and S do not attend). E. teaches in same school X in which she did her junior teaching.

Dec. 1965: E and S are filmed teaching (post filming).
E (elementary subject), sees her second film.
S (secondary subject), does not see her second film.

Jan. 1966: E and S take post test battery. Each has "exit" interview with psychologist she has not seen before.

1967: Contacted for one-hour telephone follow-up interview.[8]

1970: Second telephone follow-up interview.[8]

1973: Third telephone follow-up interview.[8]

Number of Feedback Contacts

Assessment feedback teachers (the AF group) received at least one assessment conference. Secondary behavior feedback subjects and secondary situation feedback subjects (BF and SF groups) received at least two conferences (one assessment feedback and one behavior feedback). Elementary BF and SF groups received at least three conferences (one assessment feedback and two behavior feedback).

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[8] These interviews are still in progress.

However, subjects had an opportunity to ask for follow-up conferences and counselors could ask subjects to return for additional counseling. Some follow-up contacts were informal: the subject saw the counselor after class, on campus outside the office or in the hall in the school. These latter however were not considered "treatment" although they may have had some impact. As Dr. Roy Menninger commented, (personal communication) the "illusion of a therapeutic relationship" may have persisted even when formal contacts had terminated. Consequently, the number of formal contacts may not represent fully the extent of the treatment. The number of formal contacts for which case notes were written by counselors is shown in Table 7.

Who Came for Extended Counseling?

As can be seen from the table, approximately one half of the elementary subjects who were offered the single counseling session within the research design came back for additional sessions (a total of 27 out of a possible 59 "experimental" subjects). This lends weight to the previously offered conclusion (see p. 131) that many undergraduate prospective teachers feel the need of counseling.

We decided to investigate this "extended counseling" group further, to see if they could be differentiated from the

Table 7

Numbers of Subjects Completing and Not Completing Who Received None, One, Two or Three, and Four or More Counseling Contacts (Not Including Film Feedback)

Elementary

	Completed Program					Withdrawals Who Were Criginally					Total
Number of Contacts	Control	AF	BF*	SF*	Total	Control	AF	BF*	SF*	Total	
None	20	0	0	0	20	4	1	1	0	6	26
Only One	0	10	12	10	32	0	1	3	1	5	37
Two or Three	0	7	8	6	21	0	2	0	4	6	27
Four or More	0	3	0	3	6	0	0	0	0	0	6
Total	20	20	20	19	79	4	4	4	5	17	96

Secondary

	Completed Program					Withdrawals Who Were Originally					Total
Number of Contacts	Control	AF	BF*	SF*	Total	Control	AF	BF*	SF*	Total	
None	10	0	0	0	10	9	1	0	0	10	20
Only One	0	10	10	14	34	0	7	5	5	17	51
Two or Three	0	2	1	0	3	0	1	1	2	4	7
Four or More	0	0	0	0	0	0	0	0	0	0	0
Total	10	12	11	14	47	9	9	6	7	31	78

*Excluding FF
AF=Assessment Feedback
BF=Behavior Feedback
SF= Situation Feedback

remainder of the experimental group. Did this self-selection (for extended counseling) really separate out those who perhaps needed more counseling or was it better attributed to other, more random factors such as availability of time, warmth of counselor on first session, etc.?

The personality data collected on these elementary subjects at the start of the program were separated into two groups, data from the "required counseling" group (N-32) and data from the "extended counseling" group (N=27). The groups were compared with one another (by means of a two group analysis of variance) on a total of 53 personality variables: 25 emotional and attitudinal scores from the Peck-Veldman One-Word-Sentence-Completion Test, 9 attitude scores from the Bown Self-Report Inventory, 4 "type scores" from the Myers-Briggs Type Indicator, and 15 scores from the Directed Imagination Test (a teaching-directed projective instrument).

The two groups were not significantly different from one another on any variables from the first three general personality instruments. However, on one instrument, the Directed Imagination Test, they differed significantly on seven out of fifteen variables. On the DI, subjects write four "fictional stories about teachers and their experiences". The stories are then scored objectively on the presence, absence and intensity of various story characteristics.

Analysis demonstrated that the self-selected subjects who sought additional counseling (when contrasted with those who did not) told stories which were less coherent and less organized (p=.06), more pessimistic about teaching (p=.0008), and which indicated less confidence in their own teaching ability (p=.0001). Their stories included more passive coping behavior (p=.0019), together with less appropriate coping activity (p=.0014), and they were rated lower in general adjustment (p=.0054). In addition, their stories involved more focus on crises in the classroom (p=.016).

It is interesting that these subjects do not appear to differ from the remainder of the experimental group in general personality characteristics, but they are markedly different in their level of concern and their self-report when the measuring instrument taps something more closely related to the teaching situation itself. These appear to be the subjects who need the additional support of extended counseling.

CHAPTER VIII. RESULTS: EFFECTS OF TREATMENTS

The instruments used to assess outcomes included personality tests, sound films and self-evaluation forms described in Chapter IV. For personality data, there were 15 scores from the Directed Imagination Test, 25 from the One-Word Sentence Completion Test, and nine from the Self-Report Inventory. From the films, there were 15 basic scores from the FAIR Coding System and two film rating factors from the Teacher Assessment Form. From the Self-Evaluation Forms there were four factor scores. In addition, exit interviews were categorized using a 15-item protocol.

Each of the measures taken from personality instruments, films and Self-Evaluation Forms was used in turn as the dependent variable in a complex analysis of variance design[9] using treatment groups (or combinations of treatment groups) as the first factor in the design. The pre (junior) and post (senior) level measures of each subject constituted the second factor in the design (Type I, Lindquist, 1953; Veldman, 1967).

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[9] All computations were carried out with computer programs described in Fortran Programming for the Behavioral Sciences, 1967, by D. J. Veldman.

Analyses of personality and film data were run separately for elementary and secondary subjects and these analyses will be presented first.

The maximum number of subjects involved in analyses utilizing elementary data was 79, since 17 of the original 96 subjects dropped out of the elementary preparation program during preparation. The maximum number of subjects involved in analyses utilizing secondary data was 47 since 31 of the original 78 subjects dropped out of the secondary program during preparation.

PERSONALITY DATA

Each of the 49 scores derived from the three personality instruments was used in turn as a dependent variable. Initially, these F-ratios were computed in a four group (C,AF, BF, SF) repeated trials analysis of variance design. Very few significant group by trial interactions were found and the pre and post means for the four experimental groupings were examined to determine whether there were any linear effects across groups when the groups were arranged in order of number of different experimental treatments administered (Control<Assessment Feedback<Behavior Feedback<Situation Feedback). (It will be recalled that the Assessment Feedback group had only assessment feedback; the Behavior Feedback group had both

assessment feedback and behavior feedback; the Situation Feedback group had assessment feedback, behavior feedback and situation feedback.)

Such linear effects were not observed. The major differences appeared to be between the one control group and the remaining three experimental groups (AF, BF, SF). Thereafter, when analyzing personality changes, only two groups were compared, Control Group vs. Groups AF+BF+SF pooled.

Treatment vs. no treatment was then the first factor in the design. The pre (junior) and post (senior) level measures of each subject constituted the second factor in the design. The number of scores in each cell of the design and the breakdown of degrees of freedom are outlined in Figure 3 for the two groupings.

In order to conserve space in reporting the results of the analyses of variance, means and F ratios for personality variables are summarized in Tables 8, 9, 10 (Elementary data) and 11, 12, 13 (Secondary data). F-ratios with significant probability levels are starred in the tables.

As an additional check, analyses of covariance were carried out on all variables to test the significance of group by trial interactions with pretest levels held constant. In some cases, this procedure demonstrated that the interaction was not significant with this control. In other cases, a significant interaction was found by means of this procedure which had not been demonstrated by ANOVAR. In both situations, these findings are reported in the relevant data analysis sections. Some variables are reverse-scaled. Thus, a lower mean score would indicate a higher rating on the variable. Such variables are marked (-) in the tables.

Elementary Teacher Changes Measured by Personality Instruments

Directed Imagination Data

Table 8 contains the results of the analyses of the 15 scores derived from the Veldman Directed Imagination Test.[10]

Changes Over Time (as measured by the F for trials): Only two of the 15 variables showed any tendency toward significant change over time when the experimental and control groups were combined. Later testing showed a decrease in the amount of crisis in stories of teaching, that is, the teacher-protagonists evidenced less anxiety about unpreparedness

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[10] Instructions for scoring these 15 variables and descriptions of the variables are available in the "Manual for Scoring the Test of Directed Imagination" Research and Development Center for Teacher Education, The University of Texas, 1968.

Figure 3. Analysis of Variance Design

Elementary Data

Scores Per Cell

Groups	Trials	
	Junior	Senior
Control	20	20
Experimental	59	59

Degrees of Freedom

Total	157
Between Groups	78
Groups	1
Error (B)	77
Within Groups	79
Trials	1
G x T	1
Error (W)	77

Secondary Data

Scores Per Cell

Groups	Trials	
	Junior	Senior
Control	10	10
Experimental	37	37

Degrees of Freedom

Total	93
Between Groups	46
Groups	1
Error (B)	45
Within Groups	47
Trials	1
G x T	1
Error (W)	45

(p = .004). The amount of empathy expressed by the teachers toward the children in the stories (p = .10) tended to increase.

Differential Changes Between Experimental and Control Groups (as measured by the F for interaction): The test of Directed Imagination, in which the subjects were asked to tell four stories about teaching, was the one test among the three personality tests administered which proved most sensitive to differential changes over time between experimental and control groups. This is not too surprising since this test, of the three, is the one most directly focused on teaching.

Five variables (when checked with covariance analysis) showed significant differential changes or strong tendencies toward such change over time. The control group became more general in focus in their stories, dealing with students as an undifferentiated mass while the experimental group became more specific in focus, dealing with pupils as a collection of differentiated individuals (p=.02, comparable "p" from the covariance analysis was .05). The control group became less organized in their stories, later stories having more confused plots, while the experimental group's stories became more organized (p=.003, comparable "p" from the covariance analysis was .005). When checked with covariance analysis, the significant interactions found with ANOVAR on variables 5 (Imagination), 6 (Optimism), and 8 (Self-Ability) did not hold up (comparable

Table 8

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for Directed Imagination Test, Elementary Sample N = 79

Variable	Control Means Junior	Control Means Senior	Exp'l. Means Junior	Exp'l. Means Senior	F-Ratios Group	F-Ratios Trial	F-Ratios Interaction
1. Amount of Content	83.80	86.45	86.31	89.14	.56	2.14	.00
2. Specific to General-Focus	4.70	5.70	5.39	4.95	.01	.08	5.37**
3. Reality - Fabulation	5.50	5.20	5.73	6.05	2.50	.55	1.50
4. Organized - Confused	4.55	5.85	5.12	4.90	.43	.63	10.13***
5. Imaginative to Dull	7.20	7.70	7.71	7.31	.03	.77	3.79**
6. Optimism (-)	6.20	6.50	6.83	6.37	.43	1.73	2.65*
7. Teaching Role Identification (-)	8.25	8.50	8.97	8.80	.86	.03	.29
8. Self Ability Perception (-)	3.95	5.10	5.83	5.42	5.50**	.00	5.59**
9. Chaos-Routine Crisis Level	10.55	11.95	10.49	11.19	1.67	9.26***	1.14
10. Empathy (-)	6.55	6.70	6.83	6.36	.01	2.66*	1.96
11. Maturity of Educational Content (-)	7.50	8.15	8.25	8.49	1.32	1.10	.30

Table 8. Continued

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for Directed Imagination Test, Elementary Sample N = 79

Variable	Control Means		Exp'l. Means			F-Ratios	
	Junior	Senior	Junior	Senior	Group	Trial	Interaction
12. Active-Passive Coping	5.30	4.70	5.61	5.31	1.15	1.72	.20
13. Appropriate-Inappropriate Action	5.05	5.35	5.78	5.71	1.67	.01	.31
14. Problem Resolution (-)	7.00	6.35	7.41	7.98	3.41*	.55	2.20
15. General Adjustment (-)	6.45	6.80	7.03	6.98	1.28	.06	.73

***p < .01
**p < .05
*p < .10

(-) = High scores are negative, low scores are positive.
Means = Sum of two raters' ratings.

"p's" from the covariance analyses were .11, .28 and .59, respectively).

However, three other significant interactions resulting from differential treatment were demonstrated, when pretest levels were held constant. For all levels of pretest scores, the post-test scores of the experimental subjects were higher than those of the control subjects on the Reality-Fantasy Score (Variable 3, ANOVAR interaction p=.22, comparable "p" from the covariance analysis was .067). Examining the means, we find that the experimental subjects later told stories which were more interesting and story-like, while the stories of the control subjects presented little more than factual or pure descriptive information. For all levels of pretest scores, the post-test scores of the experimental subjects were lower than those of the control subjects on the Crisis Variable (Variable 9, ANOVAR interaction p=.29, comparable "p" from the covariance analysis was .05). Lower scores indicate relatively more crisis. Since there is a general trend toward decreased crisis at later testing, the significance of the interaction demonstrates that the experimentals and controls change differentially over time, though both go in the same direction. Examining the means, we find that the stories of the control subjects decrease in crisis level so much that little emotion or excitement is present in their later stories. Experimental subjects, while the crisis level in their later stories is reduced, do not become quite so emotionless in the stories which they tell about teaching. For all pre-test levels of scores on the Problem Resolution variable (Variable 14), the post-test scores of the experimental subjects were higher than those of the control subjects (ANOVAR interaction $p = .14$, comparable covariance analysis "p" was .01). Higher scores indicate relatively less resolution of problems posed in the stories. The experimental subjects, after treatment, tell stories in which loose ends remain, while the control subjects tend more to put a conclusive ending on their stories.

Sentence Completion Data

Table 9 contains the results of the analyses of the 25 personality and attitude variables from the Peck-Veldman One Word Sentence Completion Test.

Changes Over Time (as measured by the F for trials): nine of the 25 variables showed significant changes ($p \leq .05$) or strong tendencies toward change ($.05 < p \leq .10$) from junior to senior year testing. At the close of the two-year period, teachers increased in: self-expressed ability to deal with pupils (Positive to Children, $p = .007$); ability to withstand stress ($p = .005$); feelings of independence and self-reliance ($p = .07$) and self-descriptions of persistence and tenacity

Table 9

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for One Word Sentence Completion Test Scores, Elementary Sample N = 79

Variable	Control Means		Exp'l. Means		F-Ratios		
	Junior	Senior	Junior	Senior	Group	Trial	Interaction
1. Positive Self Perception	719.65	720.20	719.20	719.44	1.27	1.00	.18
2. Optimism	721.90	722.80	722.36	721.59	.44	1.29	5.76**
3. Comfort with Sex Role	722.00	722.70	721.83	721.76	1.38	.12	.83
4. Psychosexual Integration	724.65	725.25	722.85	724.29	1.84	2.95**	.26
5. Positive to Own Past	721.95	722.35	721.93	721.95	.11	.09	.19
6. Independence	720.85	720.50	720.14	721.19	.00	3.18*	2.43
7. Ability for Authority	722.10	722.85	722.32	722.24	.21	.14	1.18
8. Positive to Father	722.90	722.30	723.20	722.39	.14	8.91***	.13
9. Positive to Mother	722.65	721.90	723.19	722.76	1.51	2.71*	.21
10. Positive to Men	721.40	721.80	720.78	721.24	1.10	1.14	.00
11. Positive to Women	720.65	720.05	720.15	720.54	.00	.31	2.91*

Table 9 Continued

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for One Word Sentence Completion Test Scores, Elementary Sample N = 79

Variable		Control Means		Exp'l. Means		F-Ratios		
		Junior	Senior	Junior	Senior	Group	Trial	Interaction
12.	Positive to People	722.05	722.50	722.41	722.12	.00	.12	1.21
13.	Extroverted	719.30	719.60	718.73	719.25	.79	2.59*	.11
14.	Positive to Authority	721.30	720.90	720.66	720.52	1.14	.30	.10
15.	Positive to Children	722.00	723.20	722.75	723.49	1.26	7.61***	.40
16.	Positive to Parent Role	720.20	720.90	720.47	720.78	.05	1.95	.35
17.	Teaching Identification Responses	722.15	722.55	722.54	722.41	.02	.00	.22
18.	Marriage Goal Responses	727.75	727.55	725.81	726.27	2.96*	.22	.21
19.	Ability to Withstand Stress	719.50	721.05	719.54	720.39	.35	8.64***	.77
20.	Persistent, Tenacious	721.65	721.70	721.58	722.25	.30	4.82**	1.34
21.	Self-Ability	720.75	721.25	720.59	720.98	.28	2.01	.03
22.	Concern with Achievement	725.30	725.25	725.58	724.66	.06	3.73**	1.09

Table 9. Continued

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for One Word Sentence Completion Test Scores, Elementary Sample N = 79

Variable	Control Means Junior	Control Means Senior	Exp'l. Means Junior	Exp'l. Means Senior	F-Ratios Group	F-Ratios Trial	F-Ratios Interaction
23. Clarity About Future	720.75	721.30	720.75	720.85	.22	.62	.51
24. High Energy Level	718.70	719.90	720.37	720.12	2.06	.06	1.89
25. Adjustment	721.50	723.85	722.02	723.20	.00	1.96	.23

$***p < .01$
$**p < .05$
$*p < .10$

(p = .03). They expressed less concern about failure (Concern with Achievement, p = .05). In addition, the teachers tended to describe themselves as being more extroverted (p = .10) and more psychosexually integrated, a combination of a more positive attitude toward men and less anxiety concerning a feminine sex-role (p=.09). They were less positive toward their fathers (p=.004) and mothers (p=.10).

Differential Changes Between Experimental and Control Groups (as measured by the F for interaction): Very few variables (no more than would be expected by chance) showed differential changes. The control subjects tended toward more pervasive optimism in later testing while the experimental subjects showed less optimism later (p=.02, comparable covariance "p" was also .02). The significance of the original interaction F-ratio on Variable 11 (Positive to Women) was not supported by the covariance analysis.

Self-Report Inventory

Table 10 contains the results of the analyses of the nine attitudinal variables derived from the Bown Self-Report Inventory (Bown and Richek, 1966).

Changes Over Time (as measured by the F for trials): Five of the nine attitudinal variables showed significant changes or strong tendencies toward change from the junior to the senior year testing. Later testing indicated a uniformly less positive expression of self-reported attitudes toward others (p=.03), toward children (p=.05), toward authority figures (p=.005), and toward parents (p=.09). There was also a significant pre to post decrease in the total ("positive toward everything") score (p=.01). Attitudes toward self, work, reality, and the future did not change significantly.

Differential Changes Between Experimental and Control Groups (as measured by the F for interaction): Only one of the nine variables showed differential changes. (The significance of the interaction F-ratio on Variable 2 (other) was not supported by the covariance analysis.) On self-reported attitude toward parents, the control group became more positive over time while the experimental group expressed a less positive attitude on later testing (p=.07, comparable covariance "p" was also .07).

Table 10

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for Self Report Inventory Elementary Sample N = 79

Variable	Control Means		Exp'l. Means			F-Ratios	
	Junior	Senior	Junior	Senior	Group	Trial	Interaction
1. Self	21.15	20.50	20.10	19.61	1.20	1.29	.02
2. Others	20.50	20.90	21.27	20.20	.00	4.55**	3.82**
3. Children	22.30	21.60	21.56	21.05	.91	4.04**	.09
4. Authority	19.15	18.55	19.42	18.10	.01	8.60***	.65
5. Work	18.10	17.60	17.14	17.31	.45	.00	.58
6. Reality	16.55	16.40	16.42	16.05	.09	1.04	.10
7. Parents	19.35	20.05	19.92	18.51	.15	2.95*	3.25*
8. Future	20.85	21.15	21.24	20.58	.03	1.74	1.74
9. Total Score	157.95	156.75	157.07	151.41	.58	6.33***	1.16

***$p < .01$
**$p < .05$
*$p < .10$

Secondary Teacher Changes Measured by Personality Instruments

Directed Imagination Data

Table 11 contains the results of the analyses of the 15 scores derived from the Veldman Directed Imagination Test.

Changes Over Time (as measured by the F for trials): Five of the 15 variables showed significant changes or strong tendencies toward change over time when experimental and control groups were combined. Later testing showed an increased amount of content in the stories of teaching (p = .0001); more imagination and creativity (p = .001); a more optimistic outlook (p = .09); more resolution of the problems raised (p = .02) and a better overall general adjustment (p = .02).

Differential Changes between Experimental and Control Groups (as measured by the F for interaction): Four of the 15 variables (when checked with covariance analysis) showed significant differential changes or strong tendencies toward such change over time. Control subjects became less organized in their stories, later stories lacking good plots, while the experimental subjects' stories became more organized (p = .02, comparable covariance "p" was .05). Controls became less imaginative in their stories, in theme and subject description, while the experimental subjects' stories became more imaginative

Table 11

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for Directed Imagination Test
Secondary Sample N = 47

Variables	Control Means Junior	Control Means Senior	Exp'l. Means Junior	Exp'l. Means Senior	Group	F-Ratios Trial	F-Ratios Interaction
1. Amount of Content	79.40	84.20	71.86	83.81	.70	28.42***	2.29
2. Specific to General-Focus	5.80	8.40	5.97	6.39	1.65	2.58	2.63
3. Reality-Fabulation	6.00	6.50	6.06	6.44	.00	1.91	.02
4. Organized-Confused	4.50	5.50	5.31	5.14	.29	.20	6.09**
5. Imaginative to Dull	7.80	8.00	8.39	7.44	.00	14.96***	6.89***
6. Optimism (-)	7.70	7.20	7.53	7.17	.06	3.02*	.07
7. Teaching Role Identification (-)	9.00	9.00	10.31	9.44	1.73	2.26	.63
8. Self Ability Perception	5.30	5.10	6.39	5.72	1.86	1.57	.18
9. Chaos-Routine Crisis Level	9.80	10.80	11.00	10.14	.28	2.05	5.78**

Table 11. Continued

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for Directed Imagination Test Secondary Sample N = 47

Variables	Control Means		Exp'l. Means			F-Ratio	
	Junior	Senior	Junior	Senior	Group	Trial	Interaction
10. Empathy (-)	7.40	7.50	7.56	7.31	.00	.46	.32
11. Maturity of Educational Content (-)	8.50	8.40	9.28	8.64	.78	1.71	.31
12. Active-Passive Coping	4.50	5.60	6.47	5.75	1.77	.59	3.14*
13. Appropriate-Inappropriate Action	6.40	6.80	6.78	6.33	.01	.40	.71
14. Problem Resolution (-)	9.50	9.60	9.92	8.69	.14	5.51**	1.88
15. General Adjustment (-)	7.30	7.20	7.78	7.17	.28	5.66**	1.01

***$p < .01$
**$p < .05$
*$p < .10$

(p = .01, comparable covariance "p" was .03). Control subjects reported fewer crises in later stories while experimental subjects reported more crises (p = .02, comparable covariance "p" was .098). When checked with covariance analysis, the significant interaction found with ANOVAR on Variable 12 (Active-Passive Coping) did not hold up (comparable covariance "p" was .55). However, one other significant interaction resulting from differential treatment was demonstrated, when pre-test levels were held constant. For all levels of pretest scores, the post-test scores of the experimental subjects were lower than those of the control subjects on the Focus Score (Variable 2, ANOVAR interaction p = .11, comparable covariance "p" was .05). Lower scores indicate more specific focus. As with the elementary subjects, the control group became more general in focus in their stories, dealing with students as an undifferentiated mass while the experimental group became more specific in focus, dealing with pupils as a collection of differentiated individuals.

Sentence Completion Data

Table 12 contains the results of the analyses of the 25 personality and attitude variables from the Peck-Veldman One-Word Sentence Completion Test.

Changes Over Time (as measured by the F for Trials): four of the 25 variables showed significant changes ($p < .05$) or strong tendencies toward change ($.05 < p < .10$) from junior to senior year testing. At the close of the two-year preparation period, teachers indicated increased feelings of independence and self-reliance ($p = .05$). Teachers also described themselves as being less positive toward men ($p = .09$) toward other people in general ($p = .04$) and toward their mothers ($p = .08$).

Differential Changes Between Experimental and Control Groups (as measured by the F for interaction): Few variables showed differential changes, but those that did were of interest. The control subjects (who, to begin with, were much more positive in their perception of other people in general than the experimental subjects) became less positive, while experimentals tended to remain fairly level ($p = .005$, comparable covariance "p" was .001). The experimental subjects made responses indicating an increased ability to withstand stress, while the control subjects reported decreased ability ($p = .02$, comparable covariance "p" was also .02). The experimental subjects indicated an increase in self-expressed ability to deal with children (Positive to Children), while the control subjects reported a decrease ($p = .009$, comparable covariance "p" was .011). In addition, covariance

Table 12

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for Sentence Completion Test
Secondary Sample N = 47

Variable	Control Means		Exp'l Means		F-Ratios		
	Junior	Senior	Junior	Senior	Group	Trial	Interaction
1. Positive Self Perception	719.40	719.40	719.27	719.59	.00	.25	.07
2. Optimism	721.10	721.50	721.78	721.73	.33	.01	.24
3. Comfort with Sex Role	721.60	720.70	721.81	721.41	.69	1.58	.25
4. Psychosexual integration	721.50	719.50	723.05	721.97	2.06	1.66	.14
5. Positive to Own Past	721.10	721.20	722.11	721.59	.65	.95	.41
6. Independence	722.40	721.90	719.43	721.03	4.10**	3.92**	2.19
7. Ability for Authority	722.50	722.00	722.19	722.86	.21	1.50	1.92
8. Positive to Father	721.90	722.30	722.81	722.68	.96	.00	.39
9. Positive to Mother	723.00	722.10	722.95	722.38	.02	3.06*	.14
10. Positive to Men	720.10	718.90	721.03	720.11	1.39	2.85*	.04
11. Positive to Women	719.20	719.60	719.84	720.08	1.09	.69	.04

Table 12. Continued

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for Sentence Completion Test
Secondary Sample N = 47

Variable	Control Means		Exp'l. Means		F-Ratios		
	Junior	Senior	Junior	Senior	Group	Trial	Interaction
12. Positive to People	722.60	720.80	722.76	722.62	4.55**	4.61**	8.93***
13. Extroverted	718.80	718.80	718.68	718.54	.06	.06	.02
14. Positive to Authority	720.60	718.90	720.57	720.32	1.40	1.57	1.82
15. Ability with Children	722.60	721.10	721.97	722.81	.52	.94	7.46***
16. Positive to Parent Role	719.60	719.60	720.35	720.65	4.20**	1.19	.32
17. Teaching Identification Responses	721.20	720.20	720.16	720.65	.13	.08	1.07
18. Marriage Goal Responses	727.10	726.00	725.65	726.22	.27	.10	1.05
19. Ability to Withstand Stress	720.90	719.60	720.22	721.08	.34	1.19	5.72**
20. Persistent, Tenacious	722.00	721.50	721.43	721.76	.07	.23	1.18

Table 12. Continued

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for Sentence Completion Test
Secondary Sample N = 47

Variable	Control Means Junior	Control Means Senior	Exp'l. Means Junior	Exp'l. Means Senior	Group	F-Ratios Trial	F-Ratios Interaction
21. Self-Ability	720.00	721.20	720.46	720.70	.00	1.83	1.41
22. Concern with Achievement	725.70	724.90	725.05	724.65	.30	1.30	.14
23. Clarity about Future	721.10	721.40	720.49	720.68	1.32	.58	.03
24. High Energy Level	719.50	719.40	720.73	719.59	.59	2.44	.52
25. Adjustment	719.80	718.10	722.54	722.00	1.78	.41	.15

$***p < .01$
$**p < .05$
$*p < .10$

analysis indicated a significant interaction on the variable measuring attitude to authority. When pre-test scores were held constant, experimentals were shown to become more positive later toward authority figures while controls later became more negative (ANOVAR interaction p = .18, comparable covariance "p" was .05).

Self-Report Inventory Data

Table 13 contains the results of the analyses of the nine variables derived from the Bown Self-Report Inventory (Bown and Richek, 1966).

Changes Over Time (as measured by the F for trials): five of the nine variables showed significant changes or strong tendencies toward change from the junior to the senior year testing. Later testing indicated less positive self-reported attitudes toward others (p = .07), toward children (p = .06), toward work (p = .05) and toward reality (p = .02). There was also a significant pre to post decrease in the total ("positive toward everything") score (p = .0006).

Differential Changes between Experimental and Control Groups (as measured by the F for interaction): None of the nine variables showed differential changes.

Table 13

Means and F-Ratios for Control Juniors, Experimental Juniors, Control Seniors and Experimental Seniors for Self Report Inventory
Secondary Sample N = 47

Variable	Control Means		Exp'l. Means			F-Ratios	
	Junior	Senior	Junior	Senior	Group	Trial	Interaction
1. Self	19.30	19.90	20.59	19.78	.39	.82	1.05
2. Others	21.50	20.20	20.57	20.14	.27	3.28*	1.09
3. Children	17.10	16.00	18.19	17.19	.39	3.77*	.01
4. Authority	18.40	16.90	19.08	18.92	1.32	1.24	1.87
5. Work	15.20	14.90	17.14	15.86	1.39	3.93**	.55
6. Reality	18.50	16.40	17.24	16.51	.32	5.60**	1.69
7. Parents	18.30	17.50	20.51	19.70	2.09	1.76	.00
8. Future	20.00	18.90	20.05	20.11	.50	.19	1.18
9. Total Score	148.30	140.70	153.38	148.22	.99	8.26***	.26

***$p < .01$
**$p < .05$
*$p < .10$

BEHAVIOR

SOUND FILM DATA

Each sound film was quantified in two ways, by categorization using the FAIR Coding System (Appendix E) and by global rating using the Teacher Assessment Form (Appendix G). These instruments were described earlier in Chapter IV.

FILM CODING

The FAIR Coding System yielded 15 basic scores including indexes which were derived from the 12 categories by summing, computing proportions, etc., as described below. Four additional scores were computed for the elementary sample only.

Each of these scores was used in turn as a dependent variable in the same analysis of variance design just described for personality data. As in the personality data analyses, F-ratios were initially computed in a four group, repeated trials design. Few significant group by trial interactions were found when all four groups (C vs. AF vs. BF vs. SF) were compared. Unless otherwise specified, the results reported here using film code data were secured from the same procedure as had been used with personality data. The control group (C) was compared with the pooled experimental group (AF + BF + SF).

Treatment groups were, as before, the first level in the design. The pre (junior) and post (senior) measures of each subject constituted the second level. The number of scores in each cell of the design and the breakdown of degrees of freedom are the same as those shown in Figure 3.

DESCRIPTIONS OF FILM CATEGORY VARIABLES

Teacher and Pupil Behaviors

Scores 1 through 12 represent the twelve types of teacher and pupil behavior described previously in Chapter 4 (F, N, I, Q, L, D, C, E, V, R, H, and W).[11] These are expressed as proportions of the total film where the numerator is the frequency of the individual behavior (e.g., F) and the denominator is the sum of all 12 behaviors (including F).

Scores 13 through 15 are ratios in which these behaviors are combined in various ways:

Score 13a, Indirect Teacher Behavior Including Questioning:

$$\frac{F + N + I + Q}{F + N + I + Q + D + L + C}$$

a ratio of the specifically indirect teacher behaviors over the total of teacher behaviors. This gives a measure for "indirect teacher behavior" not influenced by the amount of class time devoted to pupil talk.

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[11] Teacher categories: F = accepts feeling; N = encourages; I = accepts ideas; Q = questions; L = Lectures; D = gives directions; C = criticizes or corrects. Pupil behaviors: E = enthusiastic response; V = voluntary; R = routine response; H = hostile response; W = silent work.

Score 13b, Direct Teacher Behavior:

$$\frac{D + L + C}{F + N + I + Q + D + L + C}$$

a ratio of the specifically direct teacher behaviors over the total of teacher behaviors. This, of course, equals 1 - Indirect teacher behavior and thus is not an independent variable, as it represents the complement of Score 13a.

Score 13c, Indirect Behavior Excluding Questions:

$$\frac{F + N + I}{F + N + I + D + L + C}$$

a revised ratio of Score 13a in which Q (Questioning) is excluded from indirect behavior.

Score 14a, Pupil Behavior Including Silent Work:

$$\frac{E + V + R + H + W}{F + N + I + Q + D + L + C + E + V + R + H + W}$$

The sum of all pupil behaviors expressed as a proportion of all (pupil plus teacher) behaviors.

Score 14b, Teacher Behavior:

$$\frac{F + N + I + Q + D + L + C}{F + N + I + Q + D + L + C + E + V + R + H + W}$$

the sum of all teacher behaviors expressed as a proportion of all (pupil plus teacher) behaviors. This, of course, equals 1 - pupil behaviors and thus is not an independent variable, as it represents the complement of Score 14a.

Score 14c, Pupil Behavior Excluding Silent Work:

$$\frac{E + V + R + H}{F + N + I + Q + D + L + C + E + V + R + H}$$

a revised ratio of Score 14a in which W (Silent Work) is excluded from pupil behavior.

Score 15a, Percent of Student Behavior Which is Emotionally Neutral:

$$\frac{V + R}{E + V + R + H}$$

pupil behavior which is characterized as non-affective pupil response expressed as a proportion of all pupil behaviors, excluding W (Work).

Score 15b, Pupil Affect:

$$\frac{H + E}{E + V + R + H}$$

a ratio of sum of pupil enthusiastic and hostile behaviors over total pupil behaviors. This, of course, equals 1 - Pupil Neutrality (above) and thus is not an independent variable, as it represents the complement of Score 15a.

Score 16, Student Response Events per 100 Seconds: (E, V, R, W, H). This is the number of student responses of all kinds to teachers per 100 seconds, in which responses of long and of short duration are each counted as just one response.

Score 17, Interrupted Lecture: Percent lectures interupted or immediately followed by student talk (E, V, R).

Score 18, Student Responses (E, V, R) Directly Elicited by Teacher Questions (Q) per 100 Seconds.

Score 19, Indirectly Elicited Student Responses. Student responses (E, V, R) indirectly elicited by teacher per 100 Seconds.

Elementary Teacher Behavior Changes Measured by FAIR Coding of Sound Films

Table 14 contains the results of the analyses of the 19 behavior scores derived from the FAIR coding of sound films.

Changes in Teaching Behavior Over Time

As can be seen from the table, there were a number of significant changes in teacher behaviors from the first to final filming, regardless of whether the teachers were in experimental or control groups. After completing preparation, teachers accepted and used pupils' ideas more ($p = .03$), addressed more questions to pupils ($p = .001$), spent less time lecturing ($p = .005$), corrected and/or criticized pupils more ($p = .02$), devoted increased time to behaviors classified as indirect and concomitantly decreased time devoted to behaviors classified as direct ($p = .001$). This increase in indirect behavior persisted ($p = .01$) when a revised index of indirect behavior was used in which questioning (Q) is omitted (Simon, et al, 1966).

Table 14

Means and F-Ratios of Film Category Scores for Experimental and Control Juniors and Seniors (Elementary, N = 79)

Variable	Control Means (C)		Exp'l. Means (AF + BF + SF)		F-Ratios		
	Junior	Senior	Junior	Senior	Group	Trials	Interaction
1. Acceptance of Feeling	.00	.00	.01	.01	2.19	.11	.42
2. Encouragement	.02	.02	.02	.02	.70	.00	1.73
3. Acceptance of Ideas	.05	.07	.05	.06	.06	4.74**	1.34
4. Questioning	.12	.15	.10	.17	.02	36.79***	3.79**
5. Lecturing	.26	.28	.30	.21	.28	8.49***	4.86
6. Directing	.14	.11	.12	.11	.45	.93	.32
7. Correcting	.02	.02	.01	.03	.01	5.12**	1.98
8. Enthusiasm (Pupils')	.01	.01	.02	.02	4.57**	.41	.58
9. Volunteering (Pupils')	.03	.04	.04	.04	.07	.08	.28
10. Routine Responses (Pupils')	.28	.24	.27	.29	.66	.08	1.78
11. Hostility (Pupils')	.01	.02	.01	.01	1.13	7.97***	1.01
12. Silent Work (Pupils')	.07	.05	.06	.05	.04	1.21	.25

Table 14. Continued

Means and F-Ratios of Film Category Scores for Experimental and Control Juniors and Seniors (Elementary, N = 79)

Variable	Control Means (C)		Exp'l. Means (AF + BF + AF)		F-Ratios		
	Junior	Senior	Junior	Senior	Group	Trial	Interaction
13a. Indirect Teacher Behavior	.32	.37	.29	.42	.06	20.61***	1.53
13b. Direct Teacher Behavior	.68	.63	.71	.59	.06	20.61***	1.53
13c. Revised Indirect	.16	.20	.16	.20	.02	6.64***	.00
14a. Total Pupil Behavior	.39	.35	.39	.40	1.43	.01	1.27
14b. Total Teacher Behavior	.61	.65	.61	.60	1.43	.01	1.27
14c. Revised Variable 16	.34	.32	.35	.37	1.23	.21	.91
15a. Routine & Volunteer Pupil Behavior	.96	.93	.90	.92	1.92	.36	3.00*
15b. Pupil Affect	.04	.08	.10	.08	1.92	.36	3.01*
16. Student Responses (E, V, R, W, H) to teacher per 100 seconds	3.58	4.70	3.82	4.64	.13	18.14***	.37

Table 14. Continued

Means and F-Ratios of Film Category Scores for Experimental and Control Juniors and Seniors (Elementary, N = 79)

Variable	Control Means (C)		Exp'l. Means (AF + BF + SF)		F-Ratios		
	Junior	Senior	Junior	Senior	Group	Trial	Interaction
17. Percent lectures interrupted or immediately followed by student talk (E,V,R)	25.29	20.68	29.43	17.94	.00	15.67***	1.44
18. Student responses (E,V,R) directly elicited by teacher (Q) per 100 seconds	1.99	2.86	1.89	2.98	.00	31.29***	.24
19. Student responses (E,V,R) indirectly elicited by teacher per 100 seconds	0.26	0.35	0.33	0.30	.06	.00	.96

***$p < .01$
**$p < .05$
*$p < .10$

Since these analyses indicated that there were changes in teacher behavior from pre to post, an attempt was made to discover something about the character of these changes. Other indexes were computed which are shown in Table 14 (Scores 15 through 19).

In post films, there was more interaction as measured by the amount of teacher talk which was followed by student talk (Score 16, $p=.0002$). The number of student behaviors (E, V, R) indirectly elicited by the teacher (i.e., pupil behaviors immediately preceded by F, N, or I, Score 19) did not change from pre to post, but the number of student behaviors (E, V, R) directly elicited by teachers (i.e., immediately preceded by questions -- Score 18) did increase from pre to post ($p<.001$).

In post films, correcting increased, as previously noted, and lectures were less likely to be interrupted by E + V + R (all non-hostile student talk, $p<.01$, Score 17).

Changes in Pupil Behavior Over Time

Of course, the same pupils are not involved in the junior and senior year filming, but any changes observed in proportions of pupil behavior may be seen as due to changes in teaching behavior which in turn produce different pupil responses. In the later filming, we find that pupils evidenced more hostile or inattentive behavior (p=.006).

Differential Changes Between Experimental and Control Teachers' Coded Film Behavior

Did elementary teachers who received feedback "improve" more over the preparation period than teachers who did not receive feedback? When we compare changes, i.e., pre-post differences, in experimental subjects' films with changes in films of control subjects, experimental subjects changed more than controls on lecturing. Both groups spent less time lecturing and more time questioning students in their post films than they had in their pre films. The experimental group, however, decreased their lecturing more than the control group did (p=.03, comparable covariance "p" was .018). The significance of the interaction F-ratio on Variable 4 (Questioning) was not supported by the covariance analysis (covariance "p" was .18). However, covariance analysis indicated a significant interaction on the variable of total teacher behavior (Score 14b). When pre-test scores were held constant, experimental subjects were shown to decrease the total amount of time which they spent talking in the classroom, while control subjects increased this total amount (ANOVAR interaction p=.26, comparable covariance "p" was .07).

Differential Changes Between Pupils of Experimental and Control Teachers

As noted earlier, it was not possible to assign subjects to teach the same elementary school classes during both junior and senior years. Consequently, teachers did not teach the same students in their pre and post films and even trials x group interactions are difficult to interpret since different pupils were involved pre and post. Covariance analysis indicated two significant interactions not shown with ANOVAR. When pre-test scores were held constant, the pupils of experimental subjects made more routine responses at the later filming while the pupils of the control subjects made fewer routine responses (Score 10, ANOVAR interaction p=.18, comparable covariance "p" was .08). It was noted in the previous section that experimental subjects decreased in the total time which they spent talking in their classrooms. Thus it is also the case that the pupils of the experimental subjects spent a greater amount of time talking in the later filming while the pupils of the control subjects decreased in this amount from pre to post filming (Score 14a, ANOVAR interaction p=.26, comparable covariance "p" was .07). The significance of the interaction F-ratios on Scores 15a (Volunteering and Responding) and 15b (Pupil Affect) was not supported by the covariance analyses (covariance "p" was .64).

Secondary Teacher Behavior

Measured by FAIR Coding of Sound Films

It will be recalled that secondary teachers were filmed in the public school during their senior year student teaching (post filming), but that they were filmed at the beginning of the preparation program in the junior year in a "role playing" situation in which they taught their fellow students in an educational psychology course, so both "pupils" and situations were different pre and post. Furthermore, a different team of film judges coded the post films. For these reasons, we decided to analyze only the data from the post films, as we felt that any changes found from pre to post films were more likely due to the different situations in the two cases than to any effects of the training program.

As with the elementary data, the coding system yielded 15 basic scores (previously described). Subjects were compared in a two-group analysis of variance design (C vs AF + BF + SF), control group vs. the pooled experimental group. Table 15 presents the results of the analyses of 15 behavior variables on secondary subjects from the FAIR coding of sound films.

Differences Between Experimental and Control Teachers' Coded Film Behavior

Only one significant difference was found between experimental and control subjects' filmed behavior (senior year).

Table 15

Means and F-Ratios of Film Category Scores for Experimental and Control Seniors (Secondary, N = 47)

Variable	Control Means (C)	Exp'l. Means (AF + BF + SF)	F-Ratio	P
1. Acceptance of Feeling	.00	.00	.122	.73
2. Encouragement	.01	.01	.013	.90
3. Acceptance of Ideas	.06	.06	.043	.83
4. Questioning	.14	.14	.028	.86
5. Lecturing	.40	.37	.136	.72
6. Directing	.10	.09	.325	.58
7. Correcting	.02	.01	4.703	.03
8. Enthusiasm (Pupils')	.01	.00	6.457	.01
9. Volunteering (Pupils')	.02	.03	.305	.59
10. Routine Responses (Pupils')	.20	.24	.742	.60
11. Hostility (Pupils')	.03	.01	2.300	.13
12. Silent Work (Pupils')	.02	.04	.566	.53

Table 15 Continued

Means and F-Ratios of Film Category Scores for Experimental and Control Seniors
(Secondary, N = 47)

Variable	Control Means (C)	Exp'l. Means (AF + BF + SF)	F-Ratio	P
13a. Indirect Teacher Behavior	.31	.33	.085	.77
13b. Direct Teacher Behavior	.69	.67	.085	.77
13c. Revised Indirect	.14	.15	.108	.74
14a. Total Pupil Behavior	.28	.32	.755	.61
14b. Total Teacher Behavior	.72	.68	.755	.61
14c. Revised Variable 16	.26	.29	.314	.58
15a. Routine & Volunteer Pupil Behavior	.83	.93	4.411	.04
15b. Pupil Affect	.17	.07	4.411	.04

Experimental subjects spent less time correcting and criticizing pupils than did control subjects (p=.03).

Differences Between Pupils' Behaviors of Experimental and Control Teachers

The pupils of the control subjects were apparently more enthusiastic than those of the experimental subjects (p=.01). In addition, the pupils of the experimental subjects demonstrated more non-affective behavior (routine response and volunteering of answers) while those of the control subjects demonstrated more affective behaviors (both enthusiastic and hostile, p=.04).

GLOBAL RATINGS OF SOUND FILMS

Teacher Assessment Form

After each film was categorized, three film judges rated the whole teaching performance on the 12 scales of the Teacher Assessment Form (TAF), described in Chapter IV and included in Appendix G. Judges did not know the treatment group of the subject.

Inter-judge reliability for scales was satisfactory (Table 4), as shown earlier in Chapter IV. Factor analysis yielded two orthogonal factors, (I) Teacher Interesting-Warm and (II) Teacher Organized-Confident, which together accounted for approximately 63% of the variance (Table 5).

As noted earlier, elementary pre and post films could be compared; they were made under similar (public school classroom) conditions and were rated by the same teams of judges. However, pre and post films of secondary teachers were rated by different teams of judges. More importantly, secondary pre teaching was in a college classroom using peers as pupils, while post teaching was done in the public schools, with junior and senior high school students as pupils. Consequently, secondary pre and post films were not comparable and so pre to post changes were not good measures of gain. For this reason, only post films were analyzed.* Since the subjects were randomly assigned to treatment groups, it can be assumed that they were roughly equivalent in their pre-test teaching ability.

The design was a two-way analysis of variance, in which one level was elementary vs. secondary and the other was treatment group (C vs. AF vs. BF vs. SF). As shown in Tables 16 and 17, elementary teachers were judged to be much more interesting and warm ($p < .005$), while secondary teachers were somewhat more organized and confident, but not significantly so ($p = .17$). Table 16 also shows a treatment effect ($p = .02$). It appears that the more treatment a group received, the more interesting and warm they were (SF > BF > AF > C). The biggest difference seems to be between C and AF (- .51 and -.50) vs. BF and SF (.10 and .14); that is, the absence or presence of film feedback. Those who had received film feedback were rated more interesting and warm in their post test films. This was true of both elementary and secondary teachers.

Table 17 shows a treatment trend ($p = .06$). The teachers rated most organized and confident in their post test films were those who had received the most treatment, the SF group. This is supported by findings from another analysis (Albrecht, 1968). Albrecht's analysis, using only

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*Pre films, it will be recalled, were made for use in film feedback.

Table 16

How Treatment and Level Are Related
To Interesting-Warm Filmed Behavior

TAF Factor Score Means (Post test, N= 126)

Treatment Group	Elementary	Secondary	Totals
Control	-.08	-.94	-.51
AF	-.13	-.88	-.50
BF	.33	-.12	.10
SF	.28	.00	.14
Totals	.10	-.49	

	df	F	p
Elementary vs. Secondary	1	9.16	.01
Treatment	3	3.57	.02
Interaction of Elementary-Secondary x Treatment	3	.48	ns

Table 17

How Treatment and Level Are Related To Confident-Organized Filmed Behavior

TAF Factor Score Means (Post test, N = 126)

Treatment Group	Elementary	Secondary	Totals
Control	-.16	.08	-.04
AF	-.09	.64	.28
BF	-.19	-.18	-.18
SF	.44	.50	.47
Totals	.01	.27	

	df	F	p
Elementary vs. Secondary	1	1.89	ns
Treatment	3	2.50	.06
Interaction of Elementary - Secondary x Treatment	3	.76	ns

elementary teachers, revealed that the SF group showed greater pre to post improvement than the BF group in self-confidence as a teacher (as measured by similarity between student teachers' self-descriptions and their descriptions of an "ideal teacher"). While these two measures (self-confidence as a teacher and organized-confident filmed behavior) are not significantly correlated for the elementary sample as a whole, they are highly correlated for the BF group ($r = .82$, $p < .01$). Perhaps something about special placement facilitates student teachers' displaying their self-confidence when being filmed. At any rate, Albrecht found that elementary teachers in the SF group seem to have gained more confidence in their teaching ability, while this analysis suggests that both elementary and secondary teachers in the SF group were more organized and confident in their post films.

Table 17 also shows that the teachers who were least organized and confident in their post films were those in the BF group, who had received counseling and film feedback but not special placement. They seemed less organized and confident than those who had received counseling only. This seems especially so for the secondaries (although it should be remembered that for the four treatment groups taken together, there was no significant interaction between treatment and teaching level). Albrecht's analysis found no significant difference between the SF and the BF group in self-confidence as teachers; but of course Albrecht's analysis involved only elementary teachers. Further investigation is needed to determine whether film feedback without special placement (BF) lowered the confidence of those who received it, especially the secondary teachers. However, it should be pointed out that in spite of having less confidence, those who received film feedback were rated more interesting and warm in their post films. So it would seem that even if those in the BF group did not feel as comfortable, their performance was better.

In summary, analysis of the post TAF film factors showed that elementary teachers were judged to be much more interesting and warm in their films than secondary teachers. Among both elementary and secondary teachers, those who had received film feedback seemed more interesting and warm than those who had not received it. There was a tendency ($p = .06$) for teachers in the SF group to be rated most organized and confident and those in the BF group to be rated least so, despite the fact that those in the BF group rated high on interesting and warm. The somewhat paradoxical implication that those in the BF group might have improved in teaching ability while feeling less comfortable will be further explored in the section dealing with analysis of self-report data.

Elementary Teacher Differences Measured by Pupil Observation Survey Report

The Pupil Observation Survey Report[12] is a questionnaire administered to pupils which yielded a principal axis (a general overall evaluation) and five factors: (1) Friendly, (2) General Approval, (3) Nervous, (4) Permissive and (5) Competent, which together accounted for approximately 68% of the variance.

The POSR was not administered at the beginning of preparation, since pupils would have had little basis for rating. However, it was possible to administer the POSR to pupils in the classes of 76 of the 79 elementary subjects who completed teacher preparation, at the end of their student teaching. This 76 included 17 teachers in the control group and 58 in the pooled experimental group. When all four groups (C, AF, BF, SF) were compared, no significant differences were found on any of the five factors or on the overall principal axis. In addition, when the control group was compared with the pooled experimental group (C vs. AF + BF + SF), no significant differences were found on any of the five factors or on the overall principal axis.

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[12] This is a version for elementary pupils of the original secondary instrument developed by Veldman and Peck (1963).

Within the group of 76, there were 35 primary classes (grades one through three) and 41 intermediate classes (grades four through six). When primary and intermediate teachers' evaluations by their pupils were compared, primary student teachers were rated more nervous (p = .05) and less competent (p = .002), but they were given higher ratings on general approval (p = .0001) than intermediate teachers. There was also a tendency for primary teachers to be rated more cheerful (p = .10). On the principal axis, a general positive evaluation of the teacher, primary teachers were evaluated higher (p = .02).

Given this differential pupil perception of student teachers at different grade level placements, the question may be raised: do primary and intermediate teachers differ in other ways, or is a more tenable explanation that primary and intermediate pupils respond to the stimulus "teacher" differently?

On the basis of some tentative evidence, we suspect that intermediate and primary teachers were different. When we compared primary and intermediate teachers' filmed behaviors, intermediate teachers tended to talk more (p = .11), to accept pupils' ideas more (p = .11) and to elicit more pupil enthusiasm (p = .06).

At the same time there are strikingly different correlations by grade level between POSR factors and teacher behaviors as measured by the FAIR categories. For example, the correlation between teacher criticism (FAIR category C) and pupil ratings of teacher competence (POSR factor) is .29 (ns) for primary teachers and pupils and -.36 ($p < .05$) for intermediate pupils and teachers. The correlation between the principal axis (generally good evaluation) and teacher encouragement (FAIR category N) is -.48 ($p < .01$) for intermediate grades and .14 (ns) for primary grades. For intermediate students, general approval is related to their volunteering ($r = .46$, $p = .005$) but not for primary ($r = -.22$, ns). Both primary and intermediate pupils gave hostile responses when they didn't like the teacher (primary $r = -.48$, p .005; intermediate, $r = -.26$, ns). Also, for both groups the friendly, cheerful POSR factor was negatively related to hostile responses by pupils (primary, $r = -.58$, $p < .005$; intermediate, $r = -.21$, ns).

Although these findings are highly tentative, they support other trends in the data indicating that teacher groups may be self-selected according to some personality and/or behavior differences between groups. As will be seen in a later section on elementary and secondary teachers' self evaluations, teachers who elect to teach at different grade levels probably have different personality characteristics which should be taken into consideration in teacher personality and teacher behavior research.

Secondary Teacher Differences Measured by Pupil Observation Survey Report

The Pupil Observation Survey Report for secondary students (Veldman and Peck, 1963) yields a principal axis (a general overall evaluation), and five factors: (1) Friendly, Cheerful, Admired; (2) Knowledgeable, Poised; (3) Interesting, Preferred; (4) Strict Control; and (5) Democratic Procedure, which together account for approximately 77% of the variance.

The secondary POSR was administered to pupils in the classes of all 47 of the secondary subjects who completed teacher preparation. The questionnaire was given at the end of their senior year student teaching. When all four groups (C,AF,BF,SF) were compared, no significant differences were found on any of the five factors or on the overall principal axis. In addition, when the control group was compared with the pooled experimental group (C vs. AF + BF + SF), no significant differences were found on any of the five factors or on the overall principal axis.

SUMMARY AND DISCUSSION OF PERSONALITY AND FILM BEHAVIOR RESULTS

CHANGES OBSERVED FROM JUNIOR TO SENIOR YEAR

While these results are not directly related to the success of the experimental program, they are relevant in that they provide information concerning the question: Did the program overall, regardless of whether subjects were experimental or control, produce any longitudinal changes in the student teachers involved? If so, how are these changes related to personality and teaching behavior in general?

For the investigation of longitudinal change, 49 personality variables and (for the elementary subjects only) 19 film variables were available with junior and senior year data.

Elementary Subjects

Significant change ($p < .05$) or strong tendency toward change ($.05 < p < .10$) was found in two of fifteen variables from the test of Directed Imagination, nine of twenty-five Sentence Completion variables, five of nine Self-Report Inventory scores and nine of nineteen film scores.

The character of the pre-post changes observed can be expressed in two major themes: 1. movement towards increased feelings of self-confidence and ability in a variety of situations (accompanied by increased feelings of self-reliance and independence) and 2. movement specifically toward greater relaxation and sense of ease in the teaching situation (with pupils in a classroom setting).

On the test of Directed Imagination in later testing, subjects demonstrate a decrease in the amount of crisis in their stories about teaching, i.e., the teachers in the stories evidence less anxiety about unpreparedness. In addition, the amount of empathy or warmth expressed by teachers towards children in the stories tends to increase. This reduced feeling of crisis is paralleled in the Senior year Sentence Completion data by significant increases in self-expressed ability to withstand stress, self-description of persistence and tenacity, increased feeling of independence and self-reliance and a significantly decreased concern about the problem of failure, perhaps because some resolution in this area has come about. Thus, a major result of "getting through" the last two years of college appears to be markedly increased feelings of self-ability and self-confidence. This increased feeling of independence is complemented by the free expression of more negative attitudes (on the Sentence Completion test) toward father and mother in later testing.

These increases in independence, self-reliance, persistence, etc., can be viewed as an increase in "rational autonomy", one of Peck's initially posited attributes of the effective teacher.

The increased empathy toward children noted on the test of Directed Imagination is reinforced by changes on the Sentence Completion test toward more self-expressed ability to deal with children (more positive feelings toward children). Subjects also described themselves on their senior year Sentence Completions as being more extroverted and as having less anxiety concerning the feminine sex-role.

Some other data are available which are of interest in light of the changes reported above. We had the opportunity to collect Sentence Completion data from a sample of 24 in-service teachers at a local elementary school. In all of the six personality variables where significant pre-post increases were observed in our pre-service teachers, the mean scores of the in-service teacher group were higher than the mean scores of the pre-service group when tested in their junior year. In the three variables where significant pre-post decreases were found among the pre-service teachers, the mean scores of the in-service teacher group were lower than the mean scores of the pre-service group in their junior year. Thus, in all cases where significant pre-post changes were observed on the Sentence Completion Test, the changes were in the direction of the level typical of the inservice teacher.

The changes in film behavior from junior to senior year reflect the increased self-confidence and decreased feelings of anxiety about teaching which are suggested by the changes in the personality data. Increased empathy and interest in pupils is seen in the fact that (behaviorally in the film data) teachers in the senior year accept and use pupils' ideas more and address more questions to the pupils. They are less rigid and controlling in the senior year, decreasing the amount of lecturing (a control mechanism) which they do and increasing the time spent on indirect (as opposed to direct) behaviors. Senior year teachers do tend to correct and criticize pupils more, and there is an increase in the amount of hostile and/or inattentive behavior engaged in by pupils. One explanation of this increase in inattentiveness may be that it accompanies the willingness of the student teachers to relinquish tight control in the classroom. Their comparative "looseness" may lead to increased overt lapses of discipline in the classroom.

In the post films, there was more pupil-teacher interaction, as measured by the amount of teacher talk which was followed by pupil talk. The number of student behaviors directed elicited by teachers (preceded by questions) was greater in the post films.

The changes over time which we observed in our elementary sample were toward behaviors which other studies have found to be characteristic of "superior teachers". As noted, our elementary trainees demonstrated increased acceptance of pupils' ideas, more use of questioning, less use of lecturing, more correcting and a general increased choice of indirect as opposed to direct teaching behaviors. In a 1965 study of Pennsylvania elementary school teachers, Amidon and Giamatteo compared the verbal behavior of 33 superior teachers (chosen by administrators' ratings) with the behavior of a random sample of 120 teachers from the same districts. Using the Amidon-Flanders technique for Interaction Analysis (Amidon and Flanders, 1963), they found that the superior teachers used statements indicating acceptance and use of pupils' ideas twice as often as the average teachers. Superior teachers asked twice as many questions that were broad in nature and demanded pupil-initiated talk. While we have not differentiated in our study between types of questions, we do note the increased use of questions after training. In the Pennsylvania study, lecturing was used more by the average than by the superior group of teachers, and indirect verbal behaviors were utilized more by the superior teachers than by the average group.

On the Self-Report Inventory, subjects in later testing reported less positive attitudes to others, to children, to authority figures, to parents, and in general (as reflected in a decrease in the total score). While some of this is consistent (the less positive attitude to parents parallels that found in the Sentence Completion Test and may go along with the increase in feelings of independence as may the less positive attitude to authority figures), much of it seems surprising. The findings can be better understood in light of some other available data. As with the Sentence Completion Test, we had the opportunity to collect Self-Report Inventory data from a sample of 26 in-service teachers at a local elementary school. On four of the five attitudinal variables where significant pre-post decreases were observed in prospective teachers, the mean scores of the in-service teacher group were lower than the mean scores of the prospective teacher group in their junior year. Thus, where significant pre-post changes were observed, the changes were in the direction of the level typical of the in-service teacher. The only exception to this pattern was on the variable of attitude to authority. Here, while the mean of post tests was significantly lower than the mean of pre tests (indicating less positive attitude to authority at later testing), the mean of the in-service teacher group was higher than that of our prepreparation group.

Regarding the compartively freer expression of negative attitudes in later testing, we speculate that this complements the emergence of more self-confidence (as we have seen in the analysis of the Sentence Completion Test data), bringing with it increased openness and less defensiveness or guardedness. Foreman (1966) reports that subjects representing optimal levels of psychological health (nominated by college instructors and residence hall counselors), when compared with subjects representing normal mental health, admitted to more problems in ten of 11 areas assessed by the Mooney Resources-Problems Check List. Optimally healthy subjects were freer and more open in the admission of their personal difficulties and short-comings, while normal subjects appeared more indecisive and guarded. In free-recall situations, Foreman also found that the optimally healthy subjects showed more spontaneity than normal subjects by giving both significantly more positive and more negative associations about the university. Thus, a freer expression of less positive attitudes at later testing on the part of our teacher trainees may indicate less defensiveness and more openness. This is consistent with the film data findings already mentioned.

Whether or not more negative attitudes accompany increased openness, negative attitudes are more characteristic of seniors than freshmen in liberal arts colleges (Sanford, 1961). However, other explanations of this phenomenon are possible. College experiences may cause students to raise their sights, to increase their expectations of others and thus to report more negative attitudes on the basis of higher expectations. In any case, it seems the overall subject population, for whatever reason, moved toward attitudes typical of individuals with more education, more experience, and/or higher levels of expectancy.

Secondary Subjects

Significant change ($p < .05$) or strong tendency toward change ($.05 < p \leq .10$) was found in five of 15 variables from the test of Directed Imagination, four of 25 Sentence Completion variables and five of nine Self-Report Inventory scores.

The character of the pre-post changes is not as clear with the secondary data as with the previously-reported elementary data. However, the main themes of movement toward increased self-confidence and greater classroom ease do again appear to be present.

On the test of Directed Imagination in later testing, subjects show an increased amount of content in their stories about teaching. They demonstrate more imagination and creativity and reflect a more optimistic outlook. The stories involve better resolution of the problems raised, and they indicate a better overall general adjustment. On the senior year Sentence Completion Tests, subjects report increased feelings of independence and self-reliance. As with the elementary subjects, this increased feeling of independence is complemented by the experession of more negative attitudes toward their mothers in later testing.

In addition, secondary subjects described themselves on their senior year Sentence Completions as being less positive to others and to men. This reported decrease in positive attitude to others is paralleled by changes on the Self-Report Inventory. On this instrument, secondary subjects in later testing reported less positive attitudes to others, to children, to work, to reality, and in general (as reflected in a decrease in the total score). We have already discussed (with the elementary data) a possible interpretation of this finding of less positive attitudes on later testing (see p. 210). As with those data, we speculate that it complements the emergence of more self-confidence, bringing with it decreased guardedness and thus a greater willingness to admit to less positive attitudes.

As the junior year filming of secondary teachers took place in a "role playing" situation in which they taught fellow students, it was not comparable to the senior year filming which was done in a public school classroom. For this reason, no analyses were done of changes from pre to post filming with the secondary data.

DIFFERENTIAL CHANGES BETWEEN EXPERIMENTAL AND CONTROL GROUPS

These results were the most directly related to the major focus of the study. They provided information on the main question: What, if any, were the effects of the experimental (as opposed to the control) treatment? Did student teachers who received feedback (albeit in varying amounts) change over the preparation period in ways which were different from changes experienced by teachers who did not receive feedback? If so, how are the changes related to personality and teaching behavior in general?

For the investigation of possible differences between experimental and control subjects (either differential change over time or differences at the senior-year level), 49 personality variables were available. In addition, 15 scores of coded film behavior (19 scores for elementary subjects), and two factor scores of assessment ratings from the films were available.

Elementary Subjects

Significant differential change ($p < .05$) or strong tendencies toward such change over time ($.05 < p < .10$) were found between experimental and control groups on five of 15 variables from the test of Directed Imagination, only one of 25 Sentence Completion variables (no more than would be expected by chance), only one of nine Self-Report Inventory scores and three of 19 film scores.

It is not surprising that the test of Directed Imagination, the one test most directly focused on teaching, proved most sensitive to differential changes over time between experimental and control groups. In later stories, experimental subjects became more specific in focus, dealing with a group of pupils as a collection of individuals, while the control subjects became more general in focus, dealing with a group of students more as an undifferentiated group. The later stories of the experimental subjects were more organized and more interesting and story-like, while the later stories of the control subjects were less organized (having more confused plots) and presented little more than factual or pure descriptive information. As noted earlier, there is a general longitudinal trend toward decreased crisis in the stories at later testing. Experimentals and controls do change differentially over time though both go in the same direction. Stories of control subjects decrease in crisis level so much that little emotion or excitement is present in their later stories. Experimental subjects, while crisis level is reduced, do not become quite so emotionless in the stories which they tell about teaching. In senior year testing, experimental subjects indicate comparatively less resolution of problems posed in their stories. Thus the experimental subjects tell stories in which loose ends remain, while the control subjects tend more to put a final ending on their stories.

There is some evidence that differences in kinds of stories written on the Directed Imagination Test are associated with differences in actual teaching behavior. When we correlate post elementary Directed Imagination variables with the FAIR film behavior variables, we find that subjects who write stories about individual pupils (specificity of focus) tend to spend more time asking questions of pupils ($r = .27$, $p < .05$) while subjects who write about the class as a whole (general focus) tend to spend more time lecturing ($r = .24$, $p < .05$). In general, specificity of focus correlates with indirect teaching behavior, as opposed to direct ($r = .31$, $p < .01$).

On the film behavior variables, experimental subjects change more than control subjects on amount of lecturing.

Both groups lecture less and address more questions to students in post films, but the experimental subjects decrease their lecturing time more thanthe control subjects, thus becoming more similar to the "superior" teachers in the study mentioned earlier (see p. 205). In addition, experimental subjects decrease the total amount of time which they spent talking in the classroom (total teacher talk), while the control subjects increased this total amount. Thus, in the senior year classrooms of experimental subjects, pupils talked more while the pupils of control subjects talked less. Pupils of experimental subjects made more routine responses at the later filming (responses usually in answer to direct questions of teachers), while pupils of control subjects made fewer responses.

On Sentence Completion data, control subjects tended toward more pervasive optimism in later testing while the experimental subjects showed less optimism later; and on the Self-Report Inventory Data, the control group became more positive toward parents at later testing while the experimental group became less positive.

In general, the main results discussed above (from Directed Imagination and Film Behavior Data) indicate overall that changes observed in experimental subjects differed from those observed in control subjects not so much in kind as in degree. We have already discussed significant and interesting longitudinal changes experienced by the entire group (both experimental and control subjects). These longitudinal changes appear to indicate that the overall program moves a student teacher toward increased feelings of self-confidence and ability, which are expressed in greater comfort and feelings of competence in the teaching situation.

Differential changes reported above suggest that the experimental subject is helped to move further along this path in some areas than the control subject.

While much of the longitudinal change reported may be due to the passage of two years of college education, we must not overlook the distinct possibility that we minimized control-experimental differences by equalizing the "Hawthorne" effect.[13] There was no way to collect data on the control subjects (for the purpose of comparison with the experimental subjects) without, by that very act, giving those subjects the impression that they were getting special treatment--the impression, if you will, that "somebody cared." We know, from many conversations with students at a large, necessarily somewhat impersonal, university, how important that feeling can be. Both our control and experimental subjects knew they were getting a lot more attention than any other students who were in the teacher education courses at that time. In this sense, the control and experimental groups may well have both been "experimental" groups. Our control subjects were tested in their junior year (which is standard for all our education students), but they were then followed up with testing in their senior year, and they were filmed (a highly unusual and special procedure at that time) in both their junior and senior years. It would not be surprising if substantial positive effects were produced in this way, causing the changes noted in our control group which may have then resulted in obscuring a "true experimental" change (in the sense of an experimental-control difference). If this speculation has merit, we may well be victims of our own success. Data are currently being collected (under the Porter project, an operation of the Research and Development Center) which may provide answers to some of these questions.

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[13] It will be recalled that, at the Hawthorne Works of the Western Electric Company, an experiment was carried out over a number of years which appeared to show that increased pay, shorter hours, improved lighting, etc, induced girls to increase their output of electric relays. However, when the girls were returned to the original working conditions, their output not only failed to drop but rather continued to improve. The conclusion finally reached was that the girls were motivated not so much by external incentives as by increased morale related to the fact that they were selected for the experiment and the company (substitute perhaps "university faculty") was apparently interested in them as individuals rather than as mere cogs in the industrial (substitute educational) machine.

Secondary Subjects

Significant differential change ($p < .05$) or strong tendencies toward such change over time ($.05 < p < .10$) were found between experimental and control groups on four of 15 variables from the test of Directed Imagination, four of 25 Sentence Completion variables and no Self-Report Inventory scores. Only post film data were analyzed with the secondary group and differences between experimental and control subjects were found on three of 15 film scores.

On the test of Directed Imagination, in later testing, experimental subjects told stories which were more organized and more imaginative, while the later stories of control subjects were less imaginative, both in theme and subject description, and were less organized, lacking good plots. In later stories, experimental subjects became more specific in focus, dealing with individual pupils, while control subjects became more general in focus, dealing with students as a group. Finally, experimental subjects reported more crises in later stories while control subjects reported fewer crises. We note again that the test of Directed Imagination was the test which proved most sensitive to differences between experimental and control subjects. In addition, the differential changes in the secondary sample are very consistent with the differential changes between experimental and control subjects in the elementary sample. In both groups, experimental subjects move toward stories dealing with individual pupils, stories which are more organized and more interesting and which are less routine (more crisis) than the comparable stories told by control subjects.

On Sentence Completion data, control subjects became less positive to other people in general, while experimental subjects remained at relatively the same level attained at pre testing. The experimental subjects, at later testing, indicated an increase in self-expressed ability to withstand stress and to deal comfortably with children, while control subjects indicated a decrease on both these abilities. In addition, experimentals became more positive later toward authority figures while controls later became more negative.

The analysis of post film data demonstrated that experimental subjects, in their senior year, spent less time correcting and criticizing pupils than did control subjects. However, the pupils of the control subjects were apparently more enthusiastic than those of the experimental subjects, while the pupils of the experimental subjects demonstrated more content-oriented behavior (routine response and volunteering of answers) and concomitantly less affective behavior (both enthusiastic and hostile) than the pupils of the control subjects.

Again, as with the elementary data, experimental subjects differ from control subjects more in degree than in kind. The addition of "feedback" (on top of the already specialized situation) appears to heighten, for experimental subjects, some of the longitudinal changes already reported. As with the elementary sample we must not overlook the strong possibility of a "Hawthorne" effect (see discussion on pages 215 and 216).

Combined Elementary and Secondary Subjects

As only post films of secondary subjects were analyzed, only post data were used for the assessment ratings of the films. Two factor scores were obtained from 12 assessment ratings, and these factors were examined with pooled elementary and secondary data, in order to look at overall differences between experimental and control subjects. The factors were: I. Teacher Interesting-Warm, and II. Teacher Organized-Confident. One level of the design was elementary vs. secondary and the other was experimental group (four groups were utilized, C vs. AF vs. BF vs. SF, rather than control group vs. pooled experimental group used in other analysis).

Elementary student teachers were judged as significantly more interesting and warm than secondary student teachers. A treatment effect was present on the first factor, in that the more treatment a group received, the more interesting and warm they were (SF>BF>AF>C). The biggest difference appeared to be caused by the absence or presence of film feedback, with those who had received film feedback being rated as more interesting and warm in their post films.

A treatment effect was also found with the second factor. The teachers rated most organized and confident in post films were those who had received the most treatment, the SF group.

SELF-REPORTED ATTITUDES OF TEACHERS IN EXIT INTERVIEWS, SELF EVALUATION FORMS, AND TELEPHONE FOLLOW-UPS

Self-report data is especially useful in answering questions about how subjects perceived and felt about the experimental procedures they experienced. We had two such questions:

(1) Did elementary and secondary teachers receive, or perceive themselves as receiving, different treatments?--They might have, since different counselors, university supervisors, and cooperating teachers were involved in their experimental treatments. Also, secondary teachers attended different university classes and taught in different public schools.

(2) Did feedback make testing and filming more acceptable? -- As indicated in Chapter III, one reason for giving feedback was to repay subjects for their participation in the study. Did the subjects feel recompensed?

Even though self-report data is not as objective away to answer it, we naturally were interested in the answer to a third question:

(3) What were the effects of the experimental treatment? -- What treatment effects were the same (at least, not significantly different) for elementaries and for secondaries?

To answer these questions, three kinds of data were analyzed: (1) Exit interviews (depth interviews just before graduation). (2) The Self Evaluation Form (a questionnaire which asks the subject to rate herself, the experimental procedures, education courses, and teaching as a career.) Both of these instruments were completed in the senior year, shortly before graduation. (3) Telephone Follow-Up Interviews during the second year following the students' graduation from college.

Exit Interviews

In order to discover what teachers' attitudes were toward experimental procedures, as well as toward other aspects of their preparation, each teacher was seen in an hour-long, confidential "exit" interview after student teaching, when all testing and filming had been completed. The exit interviewer was a psychologist who had not participated in any of the teacher's preparation or experimental treatment. Each subject was assured that all information given would be held in confidence. A standard format was used so that the teacher interviewed could comment freely about his total experience but areas of interest to the study which the teacher did not mention voluntarily could be systematically probed. The exit interview format is included in Appendix C.

Exit interview notes were categorized using a 15-item protocol (Guetzkow, 1950) which included reactions to psychological testing, reactions to filming, and global reactions to the research project.

Did elementary and secondary teachers receive different treatments?

There is some evidence that they might have. As shown in Table 18, elementaries seem to be consistently more positive than secondaries toward all experimental procedures: testing, assessment feedback, filming and film feedback. A significantly higher percentage of elementaries were positive toward the experimental program in general ($p < .01$) and toward assessment feedback in particular ($p < .01$).

However, other evidence suggests that perhaps the elementaries are more positive toward many things, not just the experimental treatment. For instance, proportionately more elementaries than secondaries reacted positively to their required educational psychology course (p = .001). Elementary teachers more often reported "altruistic" motives for entering teaching, whereas secondary teachers reported more "expedient" reasons: "It was the only thing to do with my major" or "My parents think a teaching certificate is good insurance" (p = .06).

Are the elementaries more positive to the experimental treatment because they actually received a better treatment, or just because _in general_ they are inclined to give more positive evaluations? To the extent that the difference between elementary and secondary evaluations is due to real differences in the experimental treatment that the subjects received, then the elementary-secondary difference should be more pronounced among the experimentals than among the controls. In other words, if elementary experimentals received better treatment than secondary experimentals, there should be an interaction effect between teaching level (elementary vs. secondary) and treatment group, an effect indicating that the tendency for elementaries to be more positive than secondaries was significantly more pronounced among the experimentals than among the controls.

This suggests an analysis of variance design, in which one level is elementary vs. secondary and another level is

Table 18

Proportions of Teachers Reporting Who Positively Evaluated The Experimental Procedures

	Elementary Teachers			Secondary Teachers		
	Percent Positive of Those Reporting	No Data*	Total N**	Percent Positive of Those Reporting	No Data*	Total N**
Testing	34.3% (of N = 35)	N = 44	79	25.0% (of N = 16)	31	47
Assessment Feedback	62.8% (of N = 43)	N = 16	59	25.0% (of N = 24)	13	37
Filming	60.0% (of N = 45)	N = 34	79	44.0% (of N = 25)	22	47
Feedback	69.0% (of N = 29)	N = 10	39	47.1% (of N = 17)	8	25

*No data: No interview, or procedure not brought up in interview and/or not mentioned in interview notes.

**Only subjects who experienced procedure are included in Total N. For example, only BF's and SF's evaluated film feedback.

treatment group. However, exit interview data does not lend itself to such analysis, because there is so much missing data and because ratings are on crude two or three point scales. Fortunately, much the same material is covered by the Self-Evaluation Form, which has much less missing data and five or seven point scales and is therefore more suitable for statistical analysis.

Self-Evaluation Form

In order to reduce the redundancy of this 48-item form, the items were subjected to principal axis factor extraction, followed by varimax rotation toward simple structure. Four factors were extracted and factor scores were computed for the 126 elementary and secondary teachers in the post-test sample. The four factors and the 33 items which obtained loadings (correlations) of more than .50 with one of the factors are shown in Table 19.

To answer the questions previously posed, teaching level should be one independent variable in the design and treatment another. A third independent variable, pre-test mental health,* was added because it was thought that

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*The measure of mental health used was that by which the sample was originally stratified (see page 51).

Table 19

Self-Evaluation Form Factors

	Loading
I. Teaching Competence (18% variance)	
General overall competence as a teacher	.86
Self confidence as a teacher	.80
Effectiveness of teaching technique	.77
Sophistication regarding teaching-learning Process	.75
Organization and goal orientation	.74
Own teaching generally excellent	.73
Effectiveness of communication	.70
Own teaching poised, self confident	.69
Own teaching warm, friendly, cheerful	.60
Projects high value on subject matter	.59
Subject matter competence	.57
Own teaching better than expected	.57
Own teaching interesting, lively	.56
Openness, genuiness	.54
II. Attitude Toward Education Courses (9% variance)	
College of Education courses interesting	.73
College of Education courses better than expected	.71
College of Education courses worthwhile	.70
College of Education instructors better than others	.65
College of Education courses reassuring	.65
Own teaching helped by courses in college	.60
Opinion of teaching profession became more positive	.56
College of Education courses difficult	.52
III. Attitude Toward Assessment/Film Feedback (Treatment) (9% variance)	
Own teaching helped by conferences with psychologist	.77
Own teaching helped by psychological testing	.72
Psychological testing worthwhile	.71
Own teaching helped by conferences about filming	.61
Psychological testing interesting	.57
Own teaching helped by filming	.56

Table 19 continued

IV. Attitude Toward Teaching Career (7% variance)	Loading
Teaching career interesting	.73
Intention to teach has increased	.65
Teaching career personal	.60
Own teaching likely to improve	.57
Teaching career worthwhile	.51

Percent total variance extracted: 43

Sample: Elementary and secondary post (N = 126) mental health might affect how subjects reacted to experimental procedures and also whether subjects were generally inclined to make positive or negative evaluations. The resulting three-way analysis of variance design is shown below. The dependent variable in the design is, of course, each of the four Self-Evaluation factors.

	Treatment Groups				
	Control	AF	BF	SF	Total
ELEMENTARY					
Mental Health:					
High	7	6	7	7	27
Medium	5	6	7	8	26
Low	8	8	6	4	26
TOTAL	20	20	20	19	79
SECONDARY					
Mental Health:					
High	3	6	4	5	18
Medium	4	5	4	6	19
Low	3	1	3	3	10
TOTAL	10	12	11	14	47

Table 20 shows the degrees of freedom available for each of the seven effects in this design and all probabilities of less than .10 derived from the corresponding F-ratios. There was a significant elementary-secondary difference on three of the four factors. In each instance, it was the elementaries who were more positive. As was found in analyses of exit interviews, elementaries were more positive than secondaries toward

Table 20

Relationship of Teaching Level, Treatment Group, and Initial Level of Mental Health to Self-Evaluation Factor Scores

Probabilities Approaching Statistical Significance

Source	Degrees of Freedom	Self-Evaluation Factors			
		Teaching Competence	Education Courses	Assessment/ Film Feedback	Teaching Career
A Teaching Level	1/102	.03	.01	.0003	-
B Treatment	3/102	-	-	.05	.10
C Mental Health	2/102	-	-	-	-
AB Interaction	3/102	-	-	.004	-
AC Interaction	2/102	-	.10	-	-
BC Interaction	6/102	-	-	-	-
ABC Interaction	6/102	-	-	.10	-

experimental procedures (p = .0003). Also as found in the exit interviews,* elementaries were more positive in rating other things as well: education courses,** as was found in exit interviews (p = .01), and their own teaching competence (p = .03). Thus these results raise the same question as was raised by exit interview findings: are the elementaries more positive to the treatment because they received better treatment, or just because in general they are inclined to give more positive evaluations?

Table 21 gives the information most relevant to this question. There is a significant interaction between teaching level and treatment (p = .004) with respect to effect on the Assessment/Film Feedback factor. Inspection of cell means suggests that the tendency for elementaries to be more

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*Since subjects often reveal less of their true feelings in a questionnaire (like the Self-Evaluation Form) than in a depth interview (such as exit interview), the fact that findings from this questionnaire are the same as those from exit interviews suggests that subjects were revealing their true feelings in the Self-Evaluation Form.

**Elementary majors rated their education courses better than did the secondary majors. This finding must be qualified, however, by the tendency toward a significant interaction between teaching level and mental health. Although elementary majors rated their courses better at all three levels of mental health, the discrepancy was much greater at the medium mental health level (p = .10).

Table 21

How Teaching Level and Treatments Group are Related To Attitude Toward Assessment/Film Feedback

Self-Evaluation Factor Score Means (N=126)

Treatment Group	Elementary	Secondary	Totals
Control	-.06	-.29	-.18
AF	-.05	-.07	-.06
BF	.49	-1.09	-.30
SF	.68	-.05	.31
Total	.26	-.37	

	df	F	P
Elementary vs. Secondary	1	15.84	.0003
Treatment	3	2.74	.05
Interaction of Elementary-Secondary X Treatment	3	4.75	.004

positive than their secondary counterparts was the most pronounced for the BF groups. Among elementaries, the two groups receiving film feedback (BF and SF) were more positive toward experimental procedures than were the other two groups; but among secondaries, the BF group was the most negative of all. Thus, among elementaries, the BF group was positive toward experimental procedures, while among secondaries the BF's were quite negative.

This is rather puzzling. If all secondary experimentals received less effective assessment feedback, then the difference should be about equally pronounced in all three experimental groups: AF, BF, and SF. This is not the case. In fact, the factor scores of elementary and secondary AF's are almost equal (-.05 vs. -.07), even more similar than control group scores for elementaries (-.06) and secondaries (-.29). So there is little to support the hypothesis that all elementary experimental groups received better assessment feedback than all secondary experimental groups.

If all elementary experimental groups received better film feedback than their secondary counterparts, then the difference should be quite pronounced for both the BF and the SF group. Actually, the difference between average elementary and secondary scores is .23 for controls, .73 for the SF groups, and 1.58 for the BF groups. So the elementary-secondary difference is somewhat more pronounced for the SF group than for the controls, but much less pronounced for the SF group than for the BF group.

Which procedures or treatments do secondary teachers rate so negatively? Table 22 shows, spearately for elementaries and secondaries, how each treatment group evaluated the four different experimental procedures. It appears that the secondary BF's are positive toward filming and film feedback, even more positive than the SF's. What the secondary BF's seem especially negative towards is psychological testing and test interpretation. None of the secondary BF's were positive to psychological testing and only nine percent were positive to test interpretation, both figures being below the average for other secondary experimentals. It might be pointed out that the other group to receive film feedback, the SF group, is slightly above average in their evaluation of testing and test interpretation. So it is not both BF's and SF's who are especially negative, but only the BF's.

In summary, there is a significant interaction between teaching level and treatment: elementary BF's are positive toward the testing and treatments in general, while secondary

Table 22

Percentages of Elementary and Secondary Teachers, by Experimental Group

Who Found Experimental Procedures Helpful

	(C) Control Group	(AF) Assessment (Test) Feedback Group	(BF) Behavior (Film) Feedback Group	(SF) Situation Feedback Group	Total
Treatments Received	C	AF	BF+AF	SF+BF+AF	
Elementary Teachers					
Psychological testing	▨ 20	45	55	58	44
Test interpretation	▨	70	70	74	71
Filming	▨ 25	▨ 21	55	63	41
Film Feedback	▨	▨	75	79	77
Secondary Teachers					
Psychological testing	▨ 0	9	0	21	9
Test interpretation	▨	30	9	23	21
Filming	▨ 11	▨ 9	55	36	29
Film Feedback	▨	▨	64	50	56

Shaded areas indicate teachers who did not receive feedback from the procedure assessed.

BF's are quite negative toward psychological testing and test interpretation.

How could these results have come about? Perhaps secondary BF's received a less effective test interpretation or film feedback than did other secondary experimentals. Or perhaps the secondary BF's were different from the other groups to begin with, that is, different on the pre-test. Possibly, there is something about the combination of test interpretation and film feedback that turned secondaries (but not elementaries) against test interpretation. This could have happened to both the BF and the SF groups, but then been offset somehow in the SF group by special placement. In any case, girls who choose to go into high school teaching strongly discount the utility of self-examination through psychological assessment and counseling. They may feel it is too "subjective", or that introspection is morbid. Many subject-oriented (as contrasted with people-oriented) persons do feel this way. Further research will be necessary to explain these results.

Did the elementaries receive better treatments than the secondaries?

For most experimental groups there is little evidence to support the hypothesis that they did. However, there is evidence that one secondary experimental group, the BF's, may have received a bad treatment, a treatment which (judging from how they felt about it) was not only worse for secondary BF's than for their elementary counterparts but also worse for secondary BF's than for the other secondary experimental groups.

Apart from the possibility that elementary teachers received better experimental treatments than those in the secondary program, there is the possibility that all elementary groups (controls included) received better background preparation, such as better education courses, and student teaching experiences. Is this why they are more positive than secondaries on three of four factors? Or is it merely that elementary education majors have a general tendency to be more positive, less critical? One might assume that answers to the Self-Evaluation items are made up of two independent parts, in unknown proportions: experience-based attitudes and long-established responding bias. If the latter could be eliminated, group differences in the former might be clarified.

The total score from Bown's Self-Report Inventory was employed, in a multiple regression analysis, as a control variable to hold constant the subject's general tendency to respond positively or negatively to self-descriptive statements, while studying the main effects and interactions of teaching level and treatment. Controlling for SRI total resulted in only one change in previous findings: the difference between elementary and secondary majors in self-rated competence disappears. A study of the correlations of SRI total with other measures indicates that those who achieve low scores on SRI total are often competent teachers, "cool customers" who are quite frank. Those who achieve high scores tend to be described by peers, pupils, film judges and counselors as warm toward pupil-playmates, but also as incompetent and lacking in confidence; their high self-ratings often seem to be defensive. Possibly because more elementary majors are of this latter type, they rather defensively rated themselves higher on teaching competence. It is doubtful that they really were more competent or even truly felt more competent. In neither group, however, did initial self-evaluation affect their final appraisal of the treatments they received. Thus, there remains the distinct likelihood that elementary education majors, controls as well as experimentals, did like their courses and the experimental program better. Apparently neither of these differences can be attributed to a pre-existing tendency for secondaries to be frank and elementaries to be defensive. So the ratings may well reflect the true feelings of both groups toward their experiences in this teacher education program.

We turn now to our second question: Did feedback make subjects more positive toward being tested and filmed? Some evidence that it might have is shown in Table 21. Besides the main effect of teaching level on attitudes towards assessment and film feedback and the interaction effect of level by treatment already discussed, there is a treatment main effect shown in this table ($p = .05$). From inspection of means in the totals column, it appears that the group that received the most feedback, the SF group, was the most positive towards assessment and feedback. Of course, since this factor includes attitudes towards feedback as well as testing and filming, it is not the best measure to answer our question. What is needed are answers to two questions: (1) Did subjects who received feedback about their psychological tests evaluate the tests more positively than subjects who did not receive feedback? (2) Did subjects who received film feedback evaluate being filmed more positively than subjects who did not receive feedback?

As shown by Table 23, psychological testing was reported to be helpful by 52% of elementary subjects who received assessment feedback (feedback from tests), as opposed to only 20% of those who did not receive feedback from tests ($p < .02$). A similar tendency (10% vs. 0%) was observed among secondary subjects, but was not statistically significant.

The tendency for proportionately more feedback than no-feedback subjects to report that being observed was helpful was even greater for filming and film feedback (Table 24). Being filmed was deemed helpful by almost 59% of elementary subjects who received film feedback, versus 23% of those who did not receive film feedback ($p < .005$). Among secondary subjects 44% of those who received film feedback rated being filmed as helpful, as opposed to a scant ten percent of those who did not ($p < .05$).

In the three instances in which feedback was significantly associated with positive attitudes, the majority of subjects who received feedback were positive toward the feedback itself. In the only instance in which feedback was not significantly associated with positive attitudes, most subjects (secondary teachers) did not like the feedback (assessment feedback). Perhaps this means that feedback makes subjects improve more only if they like the specific content of the feedback itself.

Table 23

Evaluation of Psychological Testing By Those Who Did and Did Not Receive Feedback About Tests

	Teachers Evaluating Tescing Positively			
	Elementary	N	Secondary	N
Received Test Feedback	52%	(31/59)	10%	(4/33)
Did Not Receive Test Feedback	20%	(4/20)	0%	(0/10)
	$X^2 = 6.41$ df = 1, $p < .02$		$X^2 = 1.34$ df = 1, p = ns	

Table 24

Evaluation of Filming By Those Who Did and Did Not Receive Film Feedback

	Teachers Evaluating Filming Positively			
	Elementary	N	Secondary	N
Received Feedback	58.9%	(23/39)	44.00%	(11/25)
Did Not Receive Feedback	23.0%	(9/39)	10.00%	(2/20)
	$X^2 = 10.39$ df = 1, $p < .01$		$X^2 = 6.25$ df = 1, $p < .02$	

The third question asked was: What were the effects of the experimental treatment? One treatment effect has already been reported: subjects who received the most feedback were most positive towards testing and feedback. Table 25 shows another treatment effect. From inspection of treatment group means in the totals column, it appears that those who received film feedback (BF and SF groups) were somewhat more interested in teaching as a career than those who had not received it (p = .10). This tendency appears somewhat stronger among secondary than elementary teachers, but not significantly so (p = .17).

It may be somewhat surprising that elementary education majors, who had significantly more positive scores on all the other three factors, are not more positive toward teaching as a career. It may be recalled that, in their exit interviews, elementary teachers more often expressed altruistic motives for teaching than did secondaries, who more often reported motives which were frankly expedient. Perhaps self-professed expedient motives are as indicative of interest in a teaching career as are self-expressed altruistic ones. The real test, of course, is what percentage of elementaries vs. secondaries actually teach after graduation. Findings about this are reported in the next section of this chapter.

Table 25

How Teaching Level and Treatment Group Are Related to Interest in a Teaching Career

Self-Evaluation Factor Score Means (N=126)

Treatment Group	Elementary	Secondary	Totals
Control	-.02	-.46	-.24
AF	-.18	-.10	-.14
BF	.02	.70	.36
SF	-.04	.41	.18
Totals	-.06	.14	

	df	F	P
Elementary vs. Secondary	1	1.03	ns
Treatment	3	2.17	.10
Interaction of Elementary-Secondary X Treatment	3	1.70	ns

Another matter of interest in this table is that the group that is most positive of all toward teaching as a career is the secondary BF group, the same group that was most negative of all toward testing and feedback. In global ratings of post-test filmed teaching, it was this same secondary BF group which had the lowest scores on the organized-confident factor. Yet they had high scores on the interesting-warm factor. It was pointed out previously that, even though the secondary BF's may have felt uncomfortable, in some ways they performed better than most. Again, there is evidence that the secondary BF's are very negative toward testing and feedback yet they seem to have benefited from the treatment, in this case by becoming more interested in teaching as a career. They may simply, by an accident of sampling, have been a different kind of group than any of the others.

Summary

This analysis has focused on three questions:

(1) Did elementaries and secondaries receive, or perceive themselves as having received, different experimental treatment? -- There is some evidence that one secondary group, the BF's, may have received a treatment that

made them feel uncomfortable; but apparently this did not prevent their being superior in their filmed teaching behavior and also in their interest in a teaching career. There is little evidence to support the hypothesis that any of the other secondary experimental groups received a treatment less effective than that given their elementary counterparts.

(2) Did feedback make testing and filming more acceptable? -- In general, it did. Some evidence suggests that feedback makes subjects receptive to being studied only if the subjects like the specific feedback itself. It should be remembered that all subjects cooperated, even those who later reported that being filmed and tested did not help them.

(3) What were the effects of the experimental treatment? -- Those who received the most feedback (the SF group) reported the most positive attitudes toward testing and feedback ($p = .05$). Also, subjects who had film feedback tended to express more interest in a teaching career ($p = .10$).

Follow=Up Telephone Interviews

During the second year after each subject was graduated she was interviewed by telephone. First, the interviewer phoned to arrange a time convenient for the subject (this was almost always in the evening). The interviewer phoned again at the prearranged time and talked to the subject for about an hour. These conversations were tape recorded. The interviewer had a check list of items which were to be covered before the end of the conversation, but the interviewer asked general questions first so that the subject could discuss topics in her own way and give additional information if she wished to do so. However, if the subject did not spontaneously discuss some specific item on the check list, the interviewer asked the appropriate question. The check list used by interviewers is included in Appendix M.

Some interesting findings emerged from the procedure itself. We found early that interviewers should be women. Since all the subjects were women, a male voice calling in the evening seemed less acceptable (especially to husbands!).

We also found that the telephone interview was superior to face-to-face interviews in several ways. Of course it was more economical in terms of money and interviewer time, since travel was not required. It was also more economical in terms of the ratio of information gained to length of the interview. Apparently, the time between the first call to set a date and the time of the actual interview allowed the subject to review her experiences and organize her thoughts. In addition, the telephone eliminated some extraneous influences, such as the characteristics of the interviewer, and it focused the subject's attention on substantive matters. Once permission was obtained to tape record, the tape recorder, being invisible, could be forgotten. When notes were taken, the subject was not distracted by the note taking. Interviews with many subjects could be conducted over a short period of time. Most important, the conditions of the interview were relatively standard since all subjects were interviewed at about the same hour, in their homes, and could arrange to eliminate distractions. Each telephone interview was relatively independent of the other interviews since subjects did not see one another or compare notes and experiences. These follow-up interviews had obvious advantages over those conducted previously in the MHTE Study when subjects were brought to a central location for interviews and interacted with one another. We concluded that for reasons of economy as well as design, the telephone interview is a useful research tool.

At the time this report is being written, 154 PEB subjects have been interviewed by telephone, including 85 elementary subjects (of the 96 starting the program) and 69 secondary subjects (of the 78 starting the program). The tape recordings and/or notes of these interviews are a source of data which will be more completely exploited when all subjects still living and within reach have been interviewed. (One subject died and others are teaching in foreign countries or are difficult to contact for other reasons.) At the time of this writing, only some of the most important information from the follow-up interviews has been coded.

One goal of the study was to encourage the most promising candidates to continue a career in teaching, while at the same time leading those who were not suited to teaching to realize that their potentials lay elsewhere. In other words, it was hoped that the experimental treatment would increase the proportion of highest-rated student teachers who remained in the field of education and the proportion of lowest-rated student teachers who quit teaching.

Has the treatment had these effects? The first step in answering this question was to identify a sub-sample of subjects who were going to continue a career in teaching and a sub-sample of subjects who had left the profession.

Subjects were classified according to the coding of two items on the follow-up interviews:

(1) Has the subject taught? (Don't count student teaching) YES ? NO

(2) Does the subject plan to teach at all in the future? YES ? NO

The items were coded with acceptable reliability: r = .97, r = .84, respectively. Subjects were classified as continuing teaching if they met both of the following criteria: (1) they had taught in the past and (2) they plan to teach again in the future. Subjects were counted as having left the teaching profession if they said they definitely did not plan to teach in the future. (It should be noted that some of these subjects had taught in the past.) All other subjects interviewed were counted as having career plans that were indeterminate.

Applying these criteria to elementary and secondary teachers, 62% were classified as teachers, 30% as having indeterminate plans, and 8% as having definitely quit. Since the proportion teaching is already higher than is usual among graduates with majors in education, it must be suspected that few of those with indeterminate plans will teach. It seems likely that most of those, who said they have not yet decided whether to teach, will decide not to teach. Of course, this is only a guess.

There is a significant difference between elementaries and secondaries: a higher percentage of elementary education majors had made up their minds about teaching. Of the 85 elementaries interviewed, 68 had decided whether or not to teach (63 deciding yes and 5, no). Of the 69 secondaries interviewed, only 39 had decided whether to teach (32 deciding yes and 7, no). So 80% of the elementaries (68 out of 85) had made up their minds one way or the other, while only 56% (39 out of 69) of the secondaries had done so (chi square = 8.82, df = 1, $p < .01$).

However, among those who had definitely decided (that is, omitting those with indeterminate plans), there was no significant difference between the proportion of elementaries and the proportion of secondaries who elected to teach. About 93% of the elementaries (63 of 68) decided to teach, compared to about 82% (32 of 39) of the secondaries. This difference is not statistically significant.

This may be surprising, since it is widely believed that a higher proportion of elementary education majors teach than do secondary education majors. When a second round of follow-up interviews is conducted in the fifth year after graduation, will we still find about equal proportions of elementary and secondary education majors electing to teach? The answer, of course, to a large part depends on how those now undecided make up their minds. Should they act like those who made up their minds earlier, then probably there will continue to be no significant difference. But there is reason to suspect that those who, after two years, have still not made up their minds, are a bit hesitant about teaching. If so, then many of them may well decide not to teach. Should a substantial percentage of the undecided elect not to teach, then the secondaries (who have proportionately more undecided in their ranks) will have a higher proportion who ultimately decide not to teach.

It should be noted that, as of the time of this first follow-up interview, 74% of elementaries were already committed to teaching (63 of 85), vs. only 54% of the secondaries (32 of 69). This difference of course is statistically significant (chi-square = 6.15, df = 1, $p < .02$). But this does not mean that relatively more secondaries had decided not to teach; it means that more are still undecided.

Was the treatment successful in increasing the proportion of highest-rated teachers who teach and lowest-rated teachers who quit? To identify highest-rated and lowest-rated subjects, three sets of ratings were used, those of the counseling psychologist, the supervising professor and the teacher's pupils. At the time of this writing, it was possible to get all three ratings only for elementary student teachers. Assessments by the psychologist and the supervising professor were represented by their ratings of "overall effective vs. overall ineffective" on a scale of the Teacher Assessment Form. These ratings had been made at the end of student teaching (senior year).[14] The evaluation of pupils was represented by the score the teacher received on the principal axis factor of the Pupil Observation Survey Report (POSR). Since POSR's are available only for the senior year, teacher trainees who dropped out earlier had to be omitted from the sample. As Table 26 indicates, grade level tended to make a difference (p = .06) in how positive the ratings were. The "worst" rating given by first graders was not only very positive but was better than the best rating given by sixth graders.

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[14] When senior-year ratings were not avilable, it was necessary to substitute ratings made at the end of observation (junior year). This substitution was made for 30 student teachers.

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Table 26

Mean Pupil Observation Survey Report (POSR) Scores Given by Classes of 71 Elementary Student Teachers (By School and Grade Level)

	Grade Level						
School	1	2	3	4	5	6	Total
Number 1	.71 (N=5)	.30 (N=8)	-.32 (N=5)	-.29 (N=5)	-.41 (N=5)	-.57 (N=7)	-.10 (N=35)
Number 2	.78 (N=3)	.49 (N=6)	-.16 (N=6)	.05 (N=7)	-.62 (N=8)	.17 (N=6)	.12 (N=36)
Totals:	.75	.39	.24	-.12	-.51	-.20	N=71

2 way analysis of variance:

	f	df	p
School	.73	1	ns
Grade	2.28	5	.06
School X Grade	.27	5	ns

Under the circumstances, it was not meaningful to compare the rating that a teacher in a sixth grade received from her pupils with the rating received by a first-grade teacher, unless the effects of grade level on the ratings could be taken into account. To do this, regression analysis was used to predict the rating any teacher would be expected to receive from pupils of that grade level and to compute the difference between this expected rating and the one actually observed. This difference score was the one used. In other words, teachers were compared with others of their own grade level and scored above or below average in relation to them.

All ratings (those of counselor, supervisor and pupils) were then converted to rank-order scores. Lowest rated teachers were then defined as those who met the following criteria: (1) all judges put them in the bottom half of the sample; (2) the average of the judges' ratings put them in the bottom one-third; and (3) one or more judges put the subject in the bottom one-sixth of the sample. Twenty subjects were classified as lowest rated. Highest rated teachers were defined by the same criteria, but in reverse: (1) all judges put them in the top half of the sample; (2) the average of the judges' ratings put them in the top one-third; and (3) one or more judges put the subject in the top one-sixth.

Furthermore, the subject must not have received an unusually bad rating from her cooperating teacher or a low grade in student teaching. Ten met all these criteria. In addition, there were 22 "average" teachers and 27 "controversial" teachers, whom some judges rated high and others rated low. In summary, there were ten highest rated, 22 average, 20 lowest rated, and 27 controversial teachers ($N = 79$).

To return to the central question, was the treatment successful in increasing the proportion of highest rated teachers who teach and lowest rated who quit? It may be suspected that to some extent this will happen spontaneously, that is, without experimental intervention. Table 27 shows that among the elementaries there is a tendency for the highest rated teachers to teach and the lowest rated ones to quit. If it were predicted that if two teachers differed in both teaching ability and professional commitment, the one who was the better teacher was also more committed, this prediction would be correct 80% of the time, which is a 60% improvement over the expected chance value of 50% (gamma = .60, $p < .01$). Note that the distribution of teachers who are undecided is similar to the distribution of teachers who have left the profession, suggesting again that most of the undecided will decide to leave teaching.

Table 27

How Ratings of Skill in Student Teaching Are Related to Decision Whether to Teach

Rating of Student Teacher	Percent In Second Year After Graduation Who Are			
	Teachers	Undecided	Not Teachers	Total
Highest	100	0	0	100 (N=10)
Average	71	24	5	100 (N=21)
Lowest	55	35	10	100 (N=20)

gamma = .60, $p < .01$ Total N: 51

Controversial, including 2 not interviewed :	27
Average teacher not interviewed:	1
Total elementary post sample:	79

Since, for purposes of prediction-testing, only highest and lowest rated teachers will be included in the sample (with average ones omitted), it may be informative to examine only the difference in career commitment of highest rated vs. lowest rated teachers. As Table 28 shows, if teachers with indeterminate plans are dropped from the sample, there is no significant difference between the career commitment of highest vs. lowest rated teachers. But if the subjects with indeterminate plans are put in the same category as those who have decided not to teach, highest rated teachers do show significantly more commitment to a teaching career (Fisher's exact p = .01), as shown in Table 29.

In summary, findings suggest that there is a tendency for highest rated teachers to teach and lowest rated teachers to quit, even without experimental intervention. How much more improvement was brought about by the experimental treatment is a question that remains to be answered. To answer this, teachers who had received the treatment must be compared with those who did not receive treatment to see if they made more appropriate career decisions. It was reasoned that from feedback the student teacher would gain insight into herself that would help her decide wisely whether or not teaching was for her. Therefore, the prediction was tested by comparing the proportion of desirable career decisions made by those

Table 28

Number of Highest and Lowest Rated Teachers Who Are Teachers vs. Not Teachers One Year After Graduation

Ratings as Student Teacher	Teachers	Not Teachers	Totals
Highest	10	0	10
Lowest	11	2	13
Totals:	21	2	23

Fisher's exact p = ns

Table 29

Number of Highest and Lowest Rated Teachers Who Are Teaching vs. Not Teaching or Indeterminate One Year After Graduation

Ratings as Student Teacher	Teachers	Not Teaching or Indeterminate	Totals
Highest	10	0	10
Lowest	11	9	20
Totals:	21	9	30

Fisher's exact p = .01

who had feedback vs. those who had not (C vs. AF + BF + SF).

As shown in Table 30, desirable career decisions were considered to be: (1) highest-rated teachers teaching, (2) lowest-rated teachers undecided, and (3) lowest-rated teachers quitting. Conversely, undesirable career decisions were considered to be: (1) highest-rated teachers undecided, (2) highest-rated teachers quitting and (3) lowest-rated teachers teaching.

As shown in Table 30, 15 of the 22 who received feedback (69%) made desirable career decisions, as compared with only four of the eight (50%) who had no feedback. This difference however, with this small sample, is not statistically significant.[15] (Fisher's exact test, on a 2 x 2 collapse of good vs. bad choices by feedback vs. no feedback, p = ns). It appears that there is a slight but non-significant tendency for feedback to improve the appropriateness of the decision to teach or not to teach.

In summary, the information coded so far from the follow-up interviews reveals that in their second year

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[15] If those whose career plans are indeterminate are dropped from the sample, it is found that good career choices are made by 56% of subjects who received counseling and 43% of those who did not. This difference is also non-significant.

Table 30

How Feedback Is Related to Appropriateness Of Decision to Teach

Number of Elementary Education Graduates Making Each Decision

DECISION	HAD FEEDBACK	HAD NO FEEDBACK
Desirable Decisions		
Highest rated teachers teaching	8	2
Lowest rated teachers undecided	6	1
Lowest rated teachers quitting	1	1
Total desirable decisions:	15	4
Undesirable Decisions		
Highest rated teachers undecided	0	0
Highest rated teachers quitting	0	0
Lowest rated teachers teaching	7	4
Total undesirable decisions:	7	4

Fisher's exact p= ns

after graduation about 61% of those contacted had taught and planned to continue teaching. Only eight percent had left the profession;the remaining 31% had indeterminate plans. A significantly higher proportion of secondary than elementary education majors had indeterminate career plans (44% vs. 20%). However among those with definite plans, there was no significant difference between elementary and secondary education majors in the proportion teaching (93% vs. 82%).

Among elementary education majors, there seems to be a general tendency for those rated higher as student teachers to be more committed to a teaching career at the time of the follow-up interview. This tendency of highest rated teachers to teach and lowest rated teachers to quit is somewhat increased by feedback, but not significantly so. Effects of the treatment on secondaries have not yet been analyzed.

Perhaps all these findings will be more clear-cut after the five-year follow-up interviews with the same subjects, when the number with indeterminate plans will, presumably, be lowered. Then we may also have some better, perhaps behavioral, measures of the subjects' teaching skill when they were undergraduates.

CHAPTER IX

OVERVIEW OF RESULTS RELATING TO INITIAL PROPOSITIONS

It will be recalled from Chapter III that three main propositions were posited:

1. Personalized feedback treatments make it possible to gather data from nonvolunteering prospective teachers in areas generally perceived to be relatively stressful and anxiety arousing: covert concerns, unconscious functioning and filming of initial teaching. Specifically, personalized feedback treatments will increase favorable attitudes toward observation procedures. Operationally, subjects who receive feedback will be more favorable to the research operation as a whole and will report that testing and filming helped them more than will subjects on whom similar data are gathered but who do not receive feedback about it.

2. Personalized feedback treatments will increase teachers' receptivity to experience, specifically, openness to feedback from pupils. Operationally, feedback subjects will increase teaching behaviors which permit responses from pupils.

3. After feedback, teachers will increase in individual characteristics posited to be related to desirable teaching behaviors (Fig. 1, Chapter II). Specifically, teachers who have received personalized feedback will be a) more imaginative and interesting, b) more organized, c) more confident, d) more

affectionate (warmer) and e) will have more professional identification.

Proposition 1: ATTITUDES TOWARD GATHERING OF SENSITIVE DATA

Was it possible to gather data from nonvolunteers when these data included projective tests and sound films of early teaching? From the foregoing report, it is apparent that such data gathering was possible. All randomly selected subjects were tested and filmed as required by the design as long as they remained in the teacher preparation program. However this was true not only of subjects who received feedback, but was also true of subjects who were tested and filmed before any feedback was given and of subjects who did not expect feedback. Consequently the willingness of all subjects to be tested and filmed was apparently due to characteristics of the population or to procedures used in connection with testing and filming, not to feedback.

Did subjects who had feedback like it? Of the elementary subjects, approximately three-quarters of those receiving a treatment reported it was helpful. Among secondaries only about one-fifth reported that their assessment feedback was helpful, but one-half felt their film feedback was helpful. Apparently this difference between elementaries and secondaries was not due to the overall quality of the treatments given the two groups but was more likely to be due to one "bad" (unpopular) treatment given secondaries, to differences between the groups themselves and to differences in the total teacher preparation programs in which the treatments were embedded. Nevertheless, those who had the most feedback, that is the SF group, were most positive to testing, filming and feedback regardless of whether they were elementaries or secondaries.

The answer to the question, "Is feedback positively valued by prospective teachers?" is a qualified "yes." The first qualification is that the subject's evaluation may be colored by his view of his total program so that feedback may be better liked in a popular preparation program than in a program subjects dislike. In addition, subjects are discriminating about the treatment. It is not just attention itself which gets good marks. Some kinds of attention, that is, some feedback, is not positively valued. Further work is underway to discover whether feedback which is liked differs from feedback which is not liked.

It was also posited that personalized feedback would increase positive attitudes toward observation (i.e. data-gathering procedures). Specifically, it was posited that subjects who received test feedback would report that testing helped them and subjects who received film feedback would report that filming helped them more than would subjects who had not received such feedback. Did the feedback produce such results?

The answer is definitely "yes" for film feedback and probably "yes" for assessment feedback. Receiving film feedback increased positive attitudes toward filming among both elementaries and secondaries. Receiving assessment feedback increased positive attitudes toward testing among elementaries with a similar trend among secondaries. There is some indication however, that feedback makes subjects more positive toward observation only if they like the feedback itself.

However giving feedback is not the _only_ condition necessary for securing test and film data. It should be remembered that all these teachers were young, were already committed to their program through a previous investment of one or two years of study and had been assured that the testing and filming would not influence their grades, evaluations or recommendations. In addition, every precaution was taken with all subjects involved to assure their anonymity. For example, although considerable pressure was sometimes put on the research staff to use films for classes, programs and so on, films have not been used for such purposes. Written releases from a subject are required before a film is shown even to a professional audience. Needless to say, complete anonymity is the rule regarding psychological tests and records of counseling and film feedback.

Our general conclusion about gathering sensitive data is that it must be carefully planned. It _is_ possible to secure full cooperation of subjects, but many safeguards need to be built into the data-gathering situation. Attitudes of subjects toward data gathering are more positive if subjects receive feedback, if they like the feedback and if they like the total preparation program of which the observation and the feedback are a part.

We suspect that "hit-and-run" procedures yield good data only once. After that, subjects' attitudes toward data gathering probably become increasingly negative. Irresponsibly "extractive" research may resemble irresponsibly "extractive" industries: the results are not worth the effort if the soil becomes lastingly depleted.

Propositions 2 and 3: EFFECTS OF TREATMENTS

The second and third questions posed initially concerned the effects on pre-service teachers of personalized feedback. We have seen that feedback probably made testing and filming seem more helpful. Did the feedback really help these teachers?

Proposition 2 posited that feedback teachers would become more receptive in their teaching behavior to feedback from their pupils. Proposition 3 posited that they would increase in characteristics presumably related to effective teaching behavior, i.e., they would become more imaginative and interesting, more organized, more optimistic, more confident, more affectionate to children and more committed to teaching as a career.

Initially it was expected that these would be linear effects, i.e., that changes would be greater for subjects with more different treatments ($C < AF < BF < SF$). (It will be recalled that the AF group had one kind of feedback, the BF group had two and the SF group had three kinds of treatment while the control group had none.) Some linear effects did occur but they were so few as to be due probably to chance. Consequently it was accepted that clear linear effects had not occured. Changes more often were observed between the beginning and end of preparation on the one hand and between pooled experimental (AF + BF + SF) and control (C) groups on the other. These latter differences were indicated by interaction effects, i.e., experimentals changed more pre to post than controls. In short, the number of different treatments rarely had a simple linear effect on the amount of change.

There were some anticipated and some unanticipated differences between subject groups, according to the grade level at which subjects were teaching. The most striking differences (and this possibility had been anticipated in the design) were between elementary and secondary teachers, so these two groups were analyzed separately and will be discussed separately here. It was not anticipated, but now seems likely, that primary and intermediate teachers differ, so that teachers at these two levels should be separated in future analyses.

Here, however, only two groups were differentiated, elementary and secondary, so it is conceivable that, at the elementary level at least, where two probably different kinds of teachers are considered in the same analysis, some differences have cancelled one another out. Whether this is also true of secondary teachers is not known at present, but since both junior and senior high school teachers are included among secondary subjects, this is a possibility.

Observed changes in elementary and secondary subjects will be discussed separately. However, in order to help the reader to an overview of effects of treatments, figure 4 includes expected and observed changes on all measures of each variable and a rough "box score" summary for each prediction.

Proposition 2: Receptivity to Feedback from Pupils

Elementary Teachers.

Receptivity to feedback from pupils was operationally defined by the frequencies of those filmed behaviors which indicate a propensity to listen and to secure data from pupils. Over the total period of preparation the whole elementary group became, in some of these behaviors, more receptive to feedback from pupils. Although there was no change pre to post on teacher acceptance of feeling, or total pupil behavior, teachers after preparation increased their acceptance of pupils' ideas, their

FIGURE 4

EFFECTS OF FEEDBACK ON INDIVIDUAL CHARACTERISTICS:

A Box Score of Expected and Observed Changes

Variable	Sample	Comparison	Measures	Expected	Observed	Box Score
Receptivity to Feedback from Pupils	Elementary	Pre-Post	FAIR-Accepts Feelings		No Change	Increase; Elementary teachers more receptive to feedback after preparation than before
			FAIR-Accepts Ideas		Increase	
			FAIR-Questioning		Increase	
			FAIR-Lecturing		Decrease	
			FAIR-Indirect Teacher Behavior		Increase	
			FAIR-Total Pupil Behavior		No Change	
		Control-Experimental	FAIR-Accepts Feeling	Increase	No Change	Increase; Elementary teachers more receptive to feedback with feedback treatment than without treatment
			FAIR-Accepts Ideas	Increase	No Change	
			FAIR-Questioning	Increase	Increase*	
			FAIR-Lecturing	Decrease	Decrease	
			FAIR-Indirect Teacher Behavior	Increase	No Change	
			FAIR-Total Pupil Behavior	Increase	Increase	
	Secondary	Pre-Post	FAIR-Accepts Feeling			No Measures
			FAIR-Accepts Ideas			
			FAIR-Questioning			
			FAIR-Lecturing			
			FAIR-Indirect Teacher Behavior			
			FAIR-Total Pupil Behavior			
		Control-Experimental	FAIR-Accepts Feeling	Increase	No Change	No Change Secondary teachers not more receptive to feedback with feedback treatment than without treatment
			FAIR-Accepts Ideas	Increase	No Change	
			FAIR-Questioning	Increase	No Change	
			FAIR-Lecturing	Decrease	No Change	
			FAIR-Indirect Teacher Behavior	Increase	No Change	
			FAIR-Total Pupil Behavior	Increase	--	

*Tendency only, not significant

Variable	Sample	Comparison	Measures	Expected	Observed	Box Score
Interesting) Imaginative) Stimulating) (Creatively Intelligent Autonomy)	Elementary	Pre-Post	DI-Imaginative-Dull		No Change	No Change Elementary teachers not more interesting after preparation than before
		Exp/Control	DI-Imaginative-Dull	Increase	Increase	Increase; Elementary teachers more interesting with feedback treatment than without treatment
			TAF Factor-Interesting-Warm Teaching Behavior	Increase	Increase	
	Secondary	Pre-Post	DI-Imaginative-Dull		Increase	Increase; Secondary teachers more interesting after preparation than before
		Exp/Control	DI-Imaginative-Dull	Increase	Increase	Increase; Secondary teachers more interesting with feedback treatment than without treatment
			TAF Factor-Interesting-Warm Teaching	Increase	Increase	

Variable	Sample	Comparison	Measures	Expected	Observed	Box Score
Organized (Conscience-Ruled Stability)	Elementary	Pre-Post	SC-Persistent/Tenacious		Increase	No Change Elementary teachers not more organized after preparation than before
			DI-Organized/Confusion		No Increase	
		Control-Experimental	SC-Persistent/Tenacious	Increase	No Increase	Increase But Elementary teachers more organized with feedback treatment than without but this may show in teaching only with special placement
			DI-Organized/Confusion	Increase	Increase	
			TAF-Organized Confident Teaching Behavior	Increase	Increase SF only	
	Secondary	Pre-Post	SC-Persistent/Tenacious		No Increase	No Change Secondary teachers not more organized after preparation than before
			DI-Organized/Confusion		No Increase	
		Control-Experimental	SC-Persistent/Tenacious	Increase	No Increase	Increase But Secondary teachers more organized with feedback treatment than without but behavior feedback may have to be accompanied by special placement before the change shows in teaching behavior
			DI-Organized/Confusion	Increase	Increase	
			TAF-Organized Confident Teaching Behavior	Increase	Increase for AF and SF only	

Variable	Sample	Comparison	Measures	Expected	Observed	Box Score
Optimistic	Elementary	Pre-Post	SRI-Total		Decreased	Possible Decrease Elementary teachers possibly less optimistic after preparation than before
			SC-Optimism		No Change	
			DI-Optimism		No Change	
		Control-Experimental	SRI-Total	Increase	No Change	Decrease Elementary teachers less optimistic with feedback treatment than without treatment
			SC-Optimism	Increase	Decrease	
			DI-Optimism	Increase	Decrease	
	Secondary	Pre-Post	SRI-Total		Decrease	No Change Secondary teachers not more optimistic after preparation than before
			SC-Optimism		No Change	
			DI-Optimism		Increase	
		Control-Experimental	SRI-Total	Increase	No Change	No Change Secondary teachers not more optimistic with feedback treatment than without treatment
			SC-Optimism	Increase	No Change	
			DI-Optimism	Increase	No Change	

Variable	Sample	Comparison	Measures	Expected	Observed	Box Score
Confident	Elementary	Pre-Post	DI-Self Ability Perception		No Change	Increase Elementary teachers more confident after preparation than before
			SC-Independence		Increase	
			SC-Ability to Withstand Stress		Increase	
			SC-Self Ability		No Change	
			SC-Worry About Achievement		Decrease	
		Control-Experimental	DI-Self Ability Perception	Increase	Increase	No Change But Elementary teachers not more confident with feedback than without feedback except that special placement may increase confident teaching behavior
			SC-Independence	Increase	No Change	
			SC-Ability to Withstand Stress	Increase	No Change	
			SC-Self Ability	Increase	No Change	
			SC-Worry About Achievement	Decrease	No Change	
			TAF-Organized Confident Teaching Behavior	Increase	Increase SF only	
	Secondary	Pre-Post	DI-Self Ability Perception		No Increase	No Change Secondary teachers not more confident after preparation than before
			SC-Independence		Increase	
			SC-Ability to Withstand Stress		No Increase	
			SC-Self Ability		No Increase	
			SC-Worry About Achievement		No Increase	
		Control-Experimental	DI-Self Ability Perception	Increase	No Increase	No Change But Secondary teachers not more confident with feedback than without feedback but lack of change may be due to a bad behavior feedback treatment
			SC-Independence	Increase	No Increase	
			SC-Ability to Withstand Stress	Increase	Increase	
			SC-Self Ability	Increase	No Increase	
			SC-Worry About Achievement	Increase	No Increase	
			TAF-Organized Confident Teaching Behavior	Increase	Increase for AF and SF only	

Variable	Sample	Comparison	Measures	Expected	Observed	Box Score
Warm	Elementary	Pre-Post	DI-Empathy		Increase	Increase Elementary teachers more warm after preparation than before
		Exp/Control	DI-Empathy	Increase	No Change	Possible Increase Elementary teachers possibly more warm with feedback than without feedback
			TAF-Interesting Warm Teaching Behavior	Increase	Increase	
	Secondary	Pre-Post	DI-Empathy		No Change	No Change Secondary teachers not more warm after preparation than before
		Exp/Control	DI-Empathy	Increase	No Change	Possible Increase Secondary teachers possibly more warm with feedback than without feedback
			TAF-Interesting Warm Teaching Behavior	Increase	Increase	

Variable	Sample	Comparison	Measures	Expected	Observed	Box Score
Professional Identification	Elementary	Pre-Post	DI-Teaching Role Identification		No Change	No Change Elementary teachers do not have more intent to teach after preparation than before
			SC-Teaching Identification Responses		No Increase	
		Exp/Control	DI-Teaching Role Identification	Increase	No Change	Tendency to Increase No change in self-report but tendency to change in actual employment as teacher. Elementary feedback teachers do not have more intent to teach than controls but they tend to make more appropriate choice of teaching as a career
			SC-Teaching Identification Responses	Increase	No Change	
			SE Factor-Attitude Toward Teaching as a Career	Increase	Tendency to Increase BF and SF Only	
			Follow Up Interviews Desirable Decisions to Teach	Increase	Tendency to Increase	

Variable	Sample	Comparison	Measures	Expected	Observed	Box Score
Professional Identification	Secondary	Pre-Post	DI-Teaching Role Identification		No Increase	No Change Secondary teachers do not have more intent to teach after preparation than before
			SC-Teaching Identification Responses		No Increase	
		Exp/Control	DI-Teaching Role Identification	Increase	No Increase	Tendency to Increase No change in self-report but tendency to change in actual employment as teacher.
			SC-Teaching Identification Responses	Increase	No Increase	
			SE Factor-Attitude Toward Teaching as a Career	Increase	Tendency to Increase BF and SF Only	
			Follow Up Interviews-Desirable Decisions to Teach		Tendency to Increase	Secondary feedback teachers do not have more intent to teach than controls but they tend to make more appropriate choice of teaching as a career.

questioning and their indirect behavior. They lectured less. There was also more interaction and more student behaviors were elicited by teacher questions. It seems clear that over the period of preparation elementary teachers became, on the whole, more receptive to feedback from their pupils.

Despite this considerable increase in receptivity to feedback over the period of preparation in the group as a whole, the experimental teachers changed in some ways even more than the controls. Experimental teachers decreased their lecturing more than the controls did. Experimental teachers decreased the total amount of time spent in teacher talk while controls increased their total teacher talk. Conversely, pupils of experimental teachers increased their talk pre to post whereas pupils of control teachers decreased their talk. On some measures, there were no significant interactions. For example, although experimentals tended to increase their questioning more than controls, this difference was not significant. Neither were there significant differences between experimentals and controls on teacher acceptance of feeling or acceptance of ideas. In no case, however, was there a significant decrease on any measure of teacher receptivity to feedback.

In summary, if we ask the question, did elementary teachers become more receptive to feedback from pupils over the period of preparation, the answer is definitely "yes." If we ask the same question about differential changes between experimental and control teachers the answer is probably "yes," i.e., the experimental treatments probably made a contribution to an already strong movement toward more teacher receptivity to feedback from pupils. In any case, pupils of experimental teachers did give their teachers more feedback. Receptive or not, experimental teachers got feedback!

This conclusion that experimental elementary teachers became more receptive to feedback from pupils seems consistent with data from personality instruments. Feedback teachers were, in personality instruments, more apt to deal with children as a collection of individuals rather than as an undifferentiated group (which was more typical of controls). Dealing with children as a collection of individuals correlated positively with "receptive" teaching behaviors observed in films: with acceptance of pupils' ideas ($p = .05$), with teacher questioning ($p = .05$) and with indirect teacher behavior ($p = .01$). Dealing with the class as a whole (a measure derived from personality instruments) correlated with lecturing in films ($p = .05$). Empathy toward children (derived from personality instruments) correlated with acceptance of feeling in films ($p = .01$). These correlations not only "make sense" but they furnish tentative evidence that the personality measures, on which other prepositions partially depend, are tapping something out in the real world, i.e., teacher and pupil behavior.

The conclusion that feedback treatment helped elementary teachers become more open to feedback from pupils is further supported by findings regarding teachers' concerns. The concerns of a subgroup (N = 13) of feedback teachers as they expressed their concerns in depth interviews, were compared with written statements of concerns of groups of pre-service elementary teachers who were not in the present study. The results of this comparison are shown in Table 31. While some differences could be due to differences in how concerns were stated (verbal vs. written), feedback teachers were far more concerned with their pupils and less with themselves than was the comparison group. It seems likely that teachers who are concerned with pupils and with pupils' learning will be trying to get responses from their pupils and to be receptive to feedback from them.

The evidence seems to indicate that feedback to elementary teachers did increase their willingness to listen, to hear pupils and to be receptive to feedback from pupils. In any case, it increased the amount of feedback pupils gave.

Secondary Teachers

As explained in Chapter VIII, no pre-post analysis of secondary films was possible. Only post films of experimental and control subjects could be compared. When these post films were compared, experimental and control teachers did not differ on any of the measures of receptivity to feedback. However this failure

Table 31

Numbers of No Feedback (N = 29) and Feedback (N = 13) Student Teachers Expressing High to Low Levels of Concerns

	Subjects	
Levels of Concern Shown by the Subjects	Feedback (Counseling film feedback)	No Feedback
High only	1	0
High and medium	3	0
High and low	4	0
Medium only	1	1
Medium and low	2	6
Low only	2	22
TOTALS	N = 13	N = 29

gamma $\doteq$ .90 (95% accurate prediction), $p < .005$
Mann-Whitney $U \doteq 44.5$, $z = 3.92$, $p < .005$

KEY: High = Are they learning? How does what I do affect their gain?
Medium = Why do they do that? (Focus on problem behavior of pupils)
Low = Where do I stand? How adequate am I? How do others think I'm doing? (Self-centered concerns)

to find a difference may well be due to pre-existing differences between the groups. So if we ask whether feedback increased secondary teachers' receptivity to feedback from pupils, we must say that, for secondary teachers, we have insufficient information, i.e., it was not possible to compute the F for interaction on which the decision could be based.

Proposition 3: Individual Teacher Characteristics

It was posited initially that certain individual characteristics were related to certain teaching behaviors and that these individual characteristics would be increased by feedback. These characteristics are 1) imaginative and interesting, 2) organized, 3) optimistic, 4) self-confident, 5) affectionate to children and 6) committed to teaching as a career.*

Interesting, Imaginative

Elementary

For the elementary groups as a whole there were no pre-post changes. The group as a whole did not become more interesting or imaginative over the period of preparation either on measures derived from teaching behavior or from personality instruments.

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*The terms used in the 1962 proposal were 1) creatively intelligent autonomy, 2) conscience-ruled stability, 3) outgoing optimism, 4) self-confident poise, 5) kindly affection and 6) professional identification.

The experimental group, however, changed on measures derived from both personality instruments and teaching behavior. On the Directed Imagination Test, the experimental group's stories became more interesting. In addition, filmed teaching behavior of the experimental group was judged to have become more interesting* than that of the control group. So in answer to the question, did the treatments help elementary teachers to become more interesting, the answer is definitely "yes."

Secondary

Secondary teachers as a total group changed pre to post on the only measure used for this group. Their Directed Imagination stories showed more imagination and creativity post than pre.

At the end of training, the experimental group was superior to the control group on both personality instruments and teaching behavior. Experimental teachers told more imaginative stories than controls. In addition, teaching behavior in films of experimental teachers was judged to be more interesting than the teaching behavior of controls. In answer to the question, did feedback help secondary teachers to become more interesting teachers, the answer seems to be definitely "yes."

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*It will be recalled from Chapter VIII that factor analysis of the Teacher Assessment Form used to rate films produced two factors. One of these was termed "Interesting-Warm Teaching." This is the measure referred to here. It contains items which reflect warmth as well as interesting teaching. Consequently, it is also discussed below under "warm, affectionate to children."

Discussion

On both personality and teaching behavior measures, both elementary and secondary teachers became more interesting after feedback. Preparation alone helped only the secondaries to be more interesting, but feedback helped both elementaries and secondaries.

This finding is of special interest in the light of work on pupil attention. Ryans (1960), for example, found that teachers judged "stimulating" and "creative" tended to have students who were "alert" rather than "apathetic." As emphasized by Jackson (1968), of all the teacher characteristics rated by Ryans, "stimulating" and "creative" were the only ones that seemed to have a noticeable and consistent effect on pupil behavior. Whether this is supported in our own data, i.e., whether the most interesting teachers had the most alert students, must await further analysis. In any case, it seems important that a teacher be interesting. Even limited feedback apparently can help her become more interesting.

Organized

Elementary

Elementary teachers did not, apparently, become more organized over the period of preparation. They became more "persistent-tenacious" on one personality measure (SC), which may be related to organized teaching but they did not change on the organized-confusion score of the Directed Imagination Test. It seems likely that preparation did not make elementary teachers more organized.

The experimental elementary teachers, however, did change on the personality measure, becoming more organized than the control teachers. In addition, one group of experimental teachers also changed in teaching behavior. The SF group, the teachers who had the most feedback, were judged to have become more organized in their teaching.*

So the answer to the question, did feedback help teachers to be more organized is "perhaps, but..." The experimental group did become more organized on the personality measure but only the maximum feedback (SF) group became more organized in teaching behavior. At the same time, the behavior feedback (BF) group which received all of the same feedback except special placement was in an absolute sense, the least "organized-confident" (TAF factor) group. Apparently, the feedback encouraged some change toward becoming more organized, but special placement may have been required before this change showed up in organized-confident teaching behavior.

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*This is the organized-confident factor of the Teacher Assessment Form, based on filmed teaching.

Secondary

Approximately the same conclusion must be drawn about secondary teachers. Experimental secondary teachers became more organized in their stories on personality instruments. In teaching behavior, the AF and SF teachers were more organized-confident than the control teachers but again the behavior feedback group was judged least organized-confident in teaching behavior. At first glance this seems strange since the behavior feedback group received more treatment than the assessment feedback group and the same treatment as the situation feedback group with the exception of the special placement. However this was the very group which the self evaluation indicated received a "bad" treatment. In addition, a similar phenomenon in the SF group was observed in the elementary sample.

If we ask whether feedback helps secondary teachers to become more organized and confident, the answer here, as with elementary teachers, is "perhaps, but..." Feedback did apparently help teachers to become more organized. However the behavior feedback given here did not contribute to organized-confident teaching behavior and when not combined with special placement, may have actually been related to less organized-confident teaching.

Optimism

Elementary

Among elementary teachers, all changes were in the direction opposite to that predicted. Over the period of preparation neither of the two personality measures of optimism (SC and DI) changed. The total score on the Self-Report Inventory, a mixed and tenuous measure of optimism, decreased. Obviously, elementary teachers did not become more overtly optimistic and possibly became less so over their preparation.

Feedback decreased rather than increased optimism. Both personality instruments (DI and SC), the more direct measures of optimism, showed a decrease while only the less direct measure, SRI total score, showed no differential change for experimental and control teachers.

Secondary

Secondary teachers did not become more optimistic either. Over the period of preparation they became less optimistic on one measure (SRI), more on another (DI) with no change on a third (SC). There was no differential change between experimental and control teachers on any of the measures. Obviously, neither preparation itself nor feedback had any different impact upon secondaries than upon elementaries. In both cases the effect was the same: no change or even less optimism rather than more.

Discussion

Not only did teachers not become more optimistic after preparation but, if we define optimism in terms of positive expressed attitudes toward others, they became less optimistic on several measures. Secondaries became more negative toward children and others in general. Elementaries became, over the period of preparation, more negative toward parents, toward children, toward authority and toward others in general (as measured by the Self-Report Inventory) and more negative toward fathers and mothers (on Sentence Completion Scores). The elementary feedback teachers became even less optimistic than the control teachers and changed even more toward negative attitudes about parents and others.

This decreased optimism was characteristic not only of the teachers in our pre-service sample. Means from a sample of in-service teachers were even lower than the pre-service teacher means, so that both senior pre-service teachers and feedback teachers seemed to become more like in-service teachers in this respect.

Obviously, neither teacher preparation nor feedback increased optimism as so defined. It is unlikely that parents and others actually get worse (either over time or due to feedback given to their offspring), so some other interpretation is required. Teachers might have become less "defensive," i.e., more open to reality and more able to see realistically what had been true before. Teachers might become more willing to admit what they had known all along. Or teachers might become more frustrated and angry, more depressed, more negative and this negativism be reflected in negative perceptions.

This tendency toward more open expression of negative attitudes occurs not only in teachers but also in other populations. College seniors subscribe to statements indicating psychological disturbance more than freshmen (Webster, Freedman & Heist, 1962), and experienced psychotherapists are more pessimistic about patients than inexperienced psychotherapists (Strupp, 1958).

The interpretation which seems most consistent with other data about our pre-service teachers is that there is a decrease in defensiveness and a concomitant increase in frankness. (As noted earlier, these teachers also became more open to feedback from pupils and more imaginative.) Clinically, we noted in exit interviews and counseling a striking increase in frankness with regard to both themselves and others. It is not surprising to us now that the proposition about increased optimism as defined here was not supported. The finding is even refreshing in the light of the stereotype of the "good" teacher as a little "pollyanna-ish!"

Confident

Elementary

Over the total period of preparation elementary teachers became more self-confident as measured by the Sentence Completion data. They increased in their self-expressed ability to deal with pupils and their ability to withstand stress. They tended to increase self-expressed independence and were less concerned about failure.

Feedback, however, did not contribute to teachers' confidence. Feedback teachers increased more than controls on self-evaluation of their own ability (DI), but showed no differential change on any of the other measures of confidence.

Secondary

In contrast to elementary teachers, secondary teachers changed on only one measure of confidence over the period of preparation, more expression of independence (SC). In general, it is probable that there was little change pre to post.

However, the experimental treatment may possibly have made some difference although this is very tentative. Feedback teachers expressed more ability to withstand stress and, as indicated earlier in the discussion of organized-confident behavior, there were changes in teaching behavior toward more organized-confident teaching behavior. This change in behavior depended, however, upon the kind and quality of the treatment given. The assessment feedback and situation feedback groups became more organized and confident, whereas the behavior feedback group was the least organized and confident.

In general, it seems doubtful that either the preparation program or general feedback increased confidence. It seems more likely, as was true with organized teaching behavior, that situational placement is an important ingredient of such change.

Affection Toward Children

Elementary

Over the period of preparation, elementary teachers increased in empathy as measured by the DI. Elementary expermental teachers, when compared with control teachers, were judged to be warmer* in their teaching behavior. (They were also more likely in their Directed Imagination stories to deal with students as a collection of individuals rather than as an undifferentiated group, as mentioned earlier.)

Secondary

Secondary teachers did not increase in empathy (DI) over preparation or after feedback, but secondary experimental teachers became more warm in their teaching behavior.* (Secondary experimental teachers also became more specific in focus in their Directed Imagination stories, dealing with pupils as a collection of individuals rather than as a unit.)

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*This is the TAF factor interesting-warm teaching behavior mentioned earlier in connection with interesting teaching.

If we ask the question, did feedback increase teachers' warmth or affection toward students, the answer is probably "yes," particularly as evidenced in their teaching behavior.

Professional Identity

Professional identification was defined both in terms of teachers' expressed interest in teaching as a career on the Self-Evaluation Form and as actual choice of teaching, that is, whether or not the teacher was teaching after graduation. Since neither the Self-Evaluation Form nor the follow-up interview was appropriate for pretesting, there were no pre-post measures. However it was possible to compare experimentals and controls on post-measures. Two groups, the behavior feedback group and the situation feedback group, tended to be more interested in teaching as a career than the other groups, although in both cases this was only a tendency (elementary $p < .10$, secondary $p < .17$). Consequently, if we ask whether this particular treatment, i.e., special placement and/or seeing a film of oneself teaching, tended to increase intent to teach, the answer is probably "yes" for both elementary and secondary teachers.

However, we are really more interested in knowing whether feedback caused good teachers to teach and poor teachers to quit teaching. Without any experimental treatment, high rated teachers have significantly more commitment to teaching, at least when we compare subjects who, after graduation, have decided not to teach or have not decided to teach vs. subjects who have decided to teach. On top of this, there was a slight but non-significant tendency for feedback to increase the appropriateness of a subject's decision to teach or not to teach.

So, good teachers are, even without feedback, more likely to be committed to teaching than poor teachers. Feedback had a tendency to make good teachers even more committed to teaching and poor teachers less committed to teaching.

A SKETCH OF THE TEACHER WHO HAS HAD FEEDBACK

Although these findings are not, of course, conclusive, some general picture can be drawn of the teacher who has had preparation like that described in this study. This teacher is rather different from the happy, optimistic stereotype who is supposed to be more at home with pupils than with adults. Compared to the stereotype, she is more sure of herself both as a teacher and as a woman. She is more organized and confident when she teaches. She thinks of herself as being more persistent, more self-reliant and more able to withstand stress. She is less concerned about herself and more concerned about students, less worried or at least less concerned about failure both at school and in her personal life.

When teaching she talks less and elicits more talk from pupils. She listens more to pupils. However, when she acts she feels more competent in dealing with pupils.

She is more frank about her negative feelings toward others, sounds more cynical, or at least less "pollyanna-ish." She is more imaginative, more interesting and creative in her teaching. If the feedback has been task-oriented she is more likely to assess her teaching competencies realistically. If she is competent, she is more likely to think of herself as a teacher and to have increased more in her commitment to teaching as a career.

Much of this is typical of the in-service teacher and possibly of other experienced professionals. Whether this is a picture of a "good" teacher is not known. We did not attempt here to define good teaching once and for all, but merely postulated some changes as a consequence of personalized feedback procedures during teacher preparation. Most of the postulated changes did occur.

However, before we can conclude that this feedback teacher is a "better" teacher, at least two problems need to be resolved. One is a criterion problem: what is good teaching? In subsequent studies we are approaching this problem in a number of ways. One is by the use of multiple criteria: pupil learning after the teacher has taught a structured lesson, pupil interest in content as indicated in video tapes, pupil contribution to learning and pupil reinforcement of the teacher. For example, what teacher behaviors go with pupil learning and pupil interest and pupil participation and pupil praise?

Another approach to the criterion problem is by deductively, theoretically defining "bad" teaching, i.e., behaviors which we believe interfere with learning, such as unresponsiveness, passivity, hostility and excluding behavior. These dimensions can now be defined as coded teacher and pupil behaviors by use of a system (Fuller, 1969) which allows equal opportunity to record pupil behavior as well as teacher behavior.

In the sense that changes in these pre-service teachers made them more like in-service teachers, the changes were "good." In the sense that teachers felt better about themselves and their teaching, the changes were "good" for them. Still not known is whether the changes were in directions which promote other goals, such as pupil gain in information, interest in learning, more positive attitudes toward schools, better attendance at school and pupil gain in later life. Some of these questions will be addressed in further analyses of this data (e.g., reanalysis of films to discover what pupil behaviors were related to different teacher behaviors) and in other studies now in progress. The ultimate criterion, of course, would be some standard measure of life achievement of pupils, and that no one has yet devised.

The second problem which needs further study concerns the components of the treatments responsible for the changes observed. What in the treatments produced these changes? Were counselor behaviors, situational factors (such as stress) or some other events responsible for changes? To answer these questions, treatment records such as tape recordings of film feedback sessions are now being quantified so they can be related to teacher characteristics, teaching behavior and post graduation events. Ideally, we hope eventually to be able to say that an X teacher, in Y situation, with Z preparation elicits R responses from P pupils, so that judgments about R responses (and thus about Z preparation) will be possible.

CHAPTER X. DISCUSSION: OUTCOMES

The study reported here was in some respects a pioneer effort. There is a vast literature on learning, affect and instruction, but there has been little systematic, quantitative measurement of teachers as persons, their feelings and the influence these feelings have on their teaching behavior and on student response. This present study focused on teacher feelings, problems and experiences in order toassess the effects, during teacher preparation, of treatments calculated to modify the personalities and affective behavior of teachers. The study has both positive features and shortcomings.

CHANGES IN TEACHERS AS PERSONS

We found, not surprisingly, that young pre-service teachers do have strong feelings, and sometimes conflicts about these feelings. Their feelings are reflected in their teaching behavior, and in the intellectual and emotional climate they create for students. At the same time, teachers can and do change. They can be helped to resolved their problems. The changes reported in Chapters VIII and IX will not be repeated hence, but it is apparent that the young pre-service teachers in this study did change as persons and as teachers during their preparation. The changes observed, i.e., those which were not associated with some artifact like vastly different pre and post teaching situations, were in directions characteristic of in-service teachers and "superior" teachers. The evidence is strong that professional preparation, at least this kind of preparation, does improve teaching. Feedback which permits self-confrontation amplifies many of these changes.

Perhaps these teachers changed the tasks to which they addressed themselves. Green (1964) and Komisar (1966) have pointed out the importance of changing reasons for behavior rather than (or in addition to) the behavior itself. One contribution of this study has been the derivation of a developmental sequence of empirically derived teacher concerns, and a rationale for these concerns. One task to which we are now addressing ourselves is the development of a quick-scoring instrument which will yield scores to measure "maturity" of teachers' concerns.

This sequence (or perhaps hierarchy) of concerns also has implications for selecting course material and writing curricular materials for teachers, whether for in-college or in-service education. If teachers' concerns occur in a sequence, it seems sensible to present what they need to know at the time they want to know it. Our individual experiences as instructors testify that arranging material for an educational psychology course in such a sequence leads to heightened interest, and particularly when teachers are personally involved in some classroom activities which arouse these concerns. When such involvement is possible, course content ordered by concerns becomes more relevant and meets the frequent complaint that campus classwork and public school teaching are much less closely related than they ought to be.

PERSONALIZATION AND THE COMPUTER

The development of personalized teacher education programs such as those described here will probably be more, rather than less, necessary in the age of computerized instruction which is almost upon us. Mechanization of much content-presentation will relieve the teacher, and the teacher educator, of many information-giving and evaluative tasks. Programming content will allow the teacher and the teacher educator time for personal interaction with the student. When that occurs, the teacher will be face to face with the student. The teacher's (and the teacher educator's) unique contribution to learning can then be made a very personal one. What the teacher is as a person will be even more important than it is now.

We anticipate that this personalization will not necessarily continue to involve the kind of intensive counseling contact described here, at least not for all teachers. We believe that individualized programs can be developed so that different sequences of preparation can be prescribed for different groups of teachers. For some prospective teachers, intensive counseling contacts will probably be necessary; but, for many, pre-preparation testing may serve to differentiate groups for which different kinds of preparation are appropriate.

PSYCHOLOGICAL BATTERY FOR TEACHERS

Another product of this research has been a battery of instruments for individual assessment which probe deeply but which are acceptable to teachers. One frequent complaint of researchers is the resistance teachers offer to instruments like the MMPI which have advantages as research instruments but have poor effects on public relations. The test battery developed in PEB has, since the end of the study, been streamlined for economical use with large numbers of prospective teachers, (Appendix L) and adopted as a regular part of the admission procedure in some institutions.

The existing battery has made it possible to detect, before preparation begins, some prospective teachers who show the potentiality for damaging students as being extremely ineffectual. Of these, some may be helped to resolve their problems before teaching begins. A system for initiating contacts with teachers, using these instruments and the procedures described in this report, is now used in the Office of the Dean of the College of Education of The University of Texas. Although these procedures can be used as they stand by counselors knowledgeable about teachers, schools and therapy, the procedures must themselves now be communicated face to face. We are now, however, in the process of preparing self-explanatory modules for teacher educators which describe the procedures in detail.

These packets will include not only more detailed descriptions of treatments than are included in this report, but will include tape recordings, video tapes and typescripts, as well as instruments for assessing both the procedures themselves (i.e., whether the procedures used actually include the necessary components) and the effects of the procedures on students. Some of these instructional modules will be available in 1969.

TEACHING INTERACTION OBSERVATION SCHEDULES

A technical system has been developed for multi-aspect behavior coding which considers the non-verbal aspects of teacher-student interaction. This system has special usefulness in research with culturally deprived children where much of the burden of the interaction is non-verbal.

ELECTRONIC EQUIPMENT TO FACILITATE BEHAVIOR DESCRIPTION

For the analyses included in this report, film codes were written on a moving paper tape. This method enabled coders to keep their eyes fixed on the film. However, it had some disadvantages (i.e., illegibility, expense and errors in transfer to magnetic tape for computer analysis). A more recent system (Fuller, Melcer, Albrecht, 1968), developed to resolve problems encountered in the earlier system, enables the coder to type code letters on an electronic typewriter keyboard and merely hold the key down for repetitions of the same code. Work is underway to make the data on the punched tape, produced by this adapted Flexowriter system, automatically transferrable to magnetic tape for computer analysis. This Flexowriter keyboard system for recording codes can be used with any coding system which includes no more than 45 single symbols.

The Flexowriter code record is closely synchronized with the behavior (film or video tape) itself, so that it is possible to return to the film or tape and know which bit of behavior received which code. This capability makes practical multi-aspect coding of behavior. For example, the same film can be coded repeatedly with different systems, by different investigators who are interested in different aspects of classroom behavior. The different descriptions derived from various coding systems can be collated so that one bit of behavior can be described in many different ways. This helps to resolve one troublesome problem in many research areas, an inability to describe behavior richly and yet precisely. Clinical descriptions are "rich," i.e., they can consider many aspects, but they are imprecise. Single codings are more reliable, more precise, but often so meager that they are uninteresting, or almost meaningless. Repeated coding of the same behavior makes possible both richness and precision. How fruitful this bit of hardware will be depends, of course, on the quality and relevance of the coding systems used, but at least a procedure appears to be in sight which will make possible behavioral descriptions that are both "rich" and precise.

DESCRIPTIONS OF NEW TEACHERS

Some normative data has been accumulated about how neophytes teach before they have had preparation or instructions to do this or that. Mostly, neophytes seem to do what we came to call "traveling," i.e., they proceed to their own destinations (usually by talking) whether or not the class accompanies them to the same destination. They characteristically lean for support on some nearby object (desk or rostrum) or clutch something (a book or a lesson plan). They characteristically use some combination of three "strategies" which we have arbitrarily named lecture, inquiry and tutorial. These were derived from the intercorrelations of film behaviors shown in Table 32. The intercorrelations of these "strategies" are shown in Table 33. Other analyses of these data are underway.

Another line of inquiry which we consider fruitful makes use of descriptive data about the first teaching situation (either "observation" or student teaching) and the new teacher's perceptions of this situation. The data about concerns (and to some extent about effects of treatments) suggests that the first situation exerts a powerful influence on the new teacher. Sociologists, and perhaps anthropologists, need to be involved in research about teacher preparation. The first undergraduate teaching situation is, for many reasons, extremely complex. It is more complex and demanding, in fact, than the situation the teacher encounters when she is actually on the job later. Yet

TABLE 32

THREE CLUSTERS OF INTERCORRELATIONS OF FILM BEHAVIOR WHICH MAY INDICATE TEACHING STRATEGIES

"Inquiry Strategy" Cluster

	Teacher Questions	Teacher Accepts Ideas	Students Not Hostile
Teacher Questions	1.00	.56***	.30**
Teacher Accepts Ideas		1.00	.28*
Students Not Hostile			1.00

"Tutorial Strategy" Cluster

	Teacher Directs	Students Do Silent Work	Teacher Corrects or Criticizes
Teacher Directs	1.00	.43***	.26*
Students Do Silent Work		1.00	.13
Teacher Corrects or Criticizes			1.00

"Lecture Strategy" Cluster

	Teacher Lectures	Students Give Few Routine Responses
Teacher Lectures	1.00	.43***
Students Give Few Routine Responses	.43***	1.00

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* $p < .05$ ** $p < .01$ *** $p < .001$

TABLE 33

INTERCORRELATIONS OF TEACHING STRATEGIES

Teaching Strategies	Teaching Strategies: Inquiry: Teacher Questions	Inquiry: Teacher Accepts Ideas	Inquiry: Students Not Hostile	Lecturing: Teacher Lectures	Lecturing: Students Low on Routine Responses
Tutorial					
Teacher Directs	-.39***	-.25*	.01	-.27*	-.27*
Students Do Silent Work	-.38***	-.31**	-.12	-.22	-.28*
Teacher Criticizes or Corrects	-.21	-.13	-.37**	-.09	-.28*
Inquiry					
Teacher Questions				-.22	-.05
Teacher Accepts Ideas				-.12	-.17
Students Not Hostile				-.06	-.10

* $p < .05$
** $p \leq .01$
*** $p < .001$

little is known about how the class develops as a social group over the semester. The student teacher's cooperating (or supervising) teacher exerts a strong influence and can limit or expand the neophyte teacher's opportunities and even pupils' opinions of her. The cooperating teacher seems especially to affect the student teacher's confidence. The student teacher is observed more closely than she probably will ever be observed again. For her, the stakes are higher and the pressures to seem successful are greater. Most important, she has less control over the situation than she does in her own classroom. She has more temptations, too. She is a novelty to the pupils, with an initial fund of good will and no record of imposing rules, punishing children or giving grades. She is responsible for her own success but the supervising teacher is responsible for the success of the pupils. The skein is knotted and it is indeed a socially sophisticated student teacher who can unravel it under such pressure. Fortunately, the importance of the emotional overtones of the situation were anticipated at the start of the study and detailed notes were kept by several observers about interactions among individuals involved in the situation. On the basis of findings from Self-Evaluation data (and to some extent from Self-Ideal discrepancies), it seems that help with the student teaching situation particularly influences young teachers' attitudes about teaching.

Possibly preparation has a chance to "take" when the student teacher can reduce her feeling of situational stress (or stress can be reduced for her).

A PERSONALIZED PREPARATION MODEL: STAGE ONE

"Personalization," in the sense of helping the teacher clear away irrelevant frustrations and obstacles, and clarify her own self-perceptions and her teaching goals, may be important preparation for a second stage, that of learning how to instruct. In this study, we did not attempt any new ways to teach teachers how to instruct. Colleagues elsewhere are attacking this problem. We did intend to discover how to get neophytes ready to learn to instruct. We now conceive of teacher preparation as a multi-faceted effort which involves first a kind of diagnosis and mobilization of the teacher's individual resources; second, an enlargement of the teacher's repertoire of responses. The first stage involves personalization: entering into a relationship with the teacher which makes self-revelation and self-awareness appropriate for her; resolving self-concerns; deliberately stirring up professional concerns; removing obstacles, such as situational stress and feelings which interfere with learning; engaging the fundamental issues the teacher will face in the classroom. Some teachers perform these tasks for themselves but many do not. Such diagnosis and mobilization are not inconsistent with preparation designed to teach the teacher how to instruct. They may well be a "permissive" cause, what we have called in earlier chapters the "oil" in the engine, while academic and other professional preparation supply the "gas:" an enlarged repertoire of possible behaviors from which the teacher can then more freely choose.

QUESTIONS TO BE ANSWERED: CRITERIA

First, the question can be asked, did the personalization procedures do any "good." In studies of teaching, the best criterion of teaching "goodness" is pupil gain and this criterion was not employed here. The changes we observed were in directions which other studies have found to characterize superior teachers, but pupil gain in the sense of information gain was not an available measure. Some pupil measures were used, e.g., the Pupil Observation Survey Report and coded pupil behaviors in films, but it was not possible to control pupil samples, and different pupils were involved pre and post. Like many other shortcomings, this was due partly to the limited research budgets existing in 1962; but it was due also to lack of information and of techniques, a lack since remedied in part.

In more recent studies, we are using a standard teaching task developed by Lamkin and Veldman (1967). Each teacher teaches the same content, so it is possible to compare the information gained by their pupils. As a result of extensive coordination efforts with public school personnel (and in part as a by-product of the study reported here) some situational limitations have been removed. In a current study for example, it has been possible to provide public school teaching opportunities for secondary education majors at the beginning of their professional preparation, so that pre-post comparisons in secondary teaching will be possible. Such comparisons, we have found, are not justified when one situation involves simulated teaching and the other, real teaching.

Criteria are also being developed by inductive methods, for example, locating common behaviors which characterize teachers whom all judges rate superior and identifying teachers who persist in a teaching career.

INSTRUCTION VS. FEEDBACK

Another question might be asked. Is "personalization" or "feedback" necessary to produce the changes reported here? For example, would it be possible merely to tell teachers to question more, lecture less, be more open to feedback from pupils, be more interesting, etc? Although this question obviously needs testing, our clinical impression is that some kinds of behavior which seem susceptible of change by instructions, are actually resistant to change by that means. We remember the cartoon from Playboy Magazine in which a grim teacher is saying to a small sea of trusting upraised faces, "The Board of Education has instructed me to give you some basic information about reproduction, sex and other filth." So the best laid plans -- and instructions -- go astray. As was pointed out earlier, what the teacher _is_, sometimes speaks so loudly, pupils cannot hear what she says. Nevertheless, there are undoubtedly some kinds of behaviors which can be changed by some kinds of teachers with some kinds of instructions. The Stanford procedure of microteaching is a good example of this approach. How personalized feedback interacts with appropriate tactical instructions needs to be tested in further research.

BEHAVIOR SAMPLING

The problems we consider most serious involve the filming. How well do such brief samples of behavior represent the teacher's typical behavior? How did the filming, itself, influence the behavior of teachers and students? How did giving teachers notice they were to be observed make their behavior atypical? Most important, were there interactions between these effects and characteristics of individual teachers, and between observation effects and teaching situations?

At present we have good answers to none of these questions. The teachers themselves informally reported that the first filming was more "artificial" than the second filming. Hence some confounding of stress with period of teacher preparation, pre to post, may actually be the result, at least in part, of stress-reduction at the second filming.

However, effects of the observation itself only limit the degree to which we can generalize changes over time to other populations, rather than conclusions about the effects of the treatments themselves. All the groups, experimental and control alike, were filmed (and tested) pre and post, so that if there were observation effects, they probably influenced both control and experimental teachers alike. The analyses performed to measure treatment effects involved group by trials analyses of variance, so that we have some confidence that the effects attributed to treatments were not produced by the observation itself. In generalizing however, we can only say that these effects hold for these treatments under the particular circumstances of the study.

We are now attempting to discover how representative a sample of total teaching behavior are these relatively brief films. They were only 15-minutes long, although they sampled one hour of class time.

They are not, of course, representative of a year, or even one day of teacher-pupil interaction. For example, they grossly underestimate the amount of silence in the classroom. (It will be recalled that the cameraman was instructed to stop the camera at intervals during the hour to avoid use of film during periods of silences.) They also probably underestimate the amount of pupil enthusiasm since film judges were instructed to code E (enthusiasm) only if the pupils could be seen. When enthusiasm was spontaneous and unexpected, the camera might have been stopped or focused on a different part of the classroom.

Repeated video tapes are now being made of a sample of teachers at frequent intervals. These will be compared with behavior samples similar to those used in this study. It is now possible (by means of a mobile Video Van) to perform most operations outside the classroom so the effects of another observation variable, presence of a cameraman in the classroom, can be assessed. It is also possible to assess the effects of giving the teacher advance notice about observation, and to assess the effects of cameraman selectivity during selective filming.

The question about interactions between observation effects and characteristics of individual teachers, and about interactions between observation effects and situational differences, can only be answered by further analysis. Some teachers reported they were exhilarated by the filming and others reported they were upset. Some classes were probably differentially responsive to the filming. We have observed recently, for example, that children in deprived areas dress up on the day they know they are to be filmed. We assume that that the in-service teachers in these classes also respond differently to filming. We have data which will help us answer these questions: data about supervising teachers' behavior before and during the film (from recorders' notes), about their relationships with their student teachers and about the perceptions of the subjects themselves.

We are now exploring a method of stimulated recall with pupils to gather data about pupils' subjective responses. The children are taped, later see tapes, and are asked to recall what they were thinking about during the filming. Another possibility is the administration of a pupil questionnaire immediately before and after filming.

To handle the problem of cameraman selectivity, specific instructions for cameramen are helpful, but the best solution seems to be multiple filming so that at least two cameras are employed, one always on the teacher and one on the pupils. It is now possible to show both these films on a split screen. Multiple coding of multiple films seems to be a better resolution of the problem of camera selectivity. Multiple filming will probably produce the most complete representation of what occurs and multiple coding is now becoming possible with the Flexowriter system. These problems are not easy to resolve, but the problems in personal observation are massive: rater bias, loss of data and inability to reexamine the data. The problems due to camera selectivity and filming are relatively susceptible of resolution. An attack on filming and coding problems seems to us the most fruitful avenue.

A different type of problem exists in assessing the effects of the treatments. First there is the lack of a placebo. The controls did not have test interpretations or counseling interviews. In many cases, they knew other students were having them. We considered at first some kind of a formal, private, placebo interview for controls, but since the therapists involved were likely to do in the placebo interview whatever they usually did, this route was abandoned and no formal placebo was included in the design. However, the counselors involved in treatments (counseling and film feedback) and in instruction were the same individuals for the elementary students. (In the case of secondary subjects, the course instructors participated in the film feedback but not in the counseling. That was done by another person.) Consequently, control subjects saw their counselor-instructors not only in class but sometimes in their offices outside class. In this sense, there was not complete denial of personal contact to controls. This problem probably cannot be resolved even by a larger study if it includes both counselors and non-counseling instructors, since systematic differences may exist between the instruction these two kinds of educators offer.

DENIAL OF TREATMENT

There may have been some effects due to perceived denial of treatment. The sequence of groups was arranged so that subjects who saw their films were run in different semesters from subjects who did not see their films. Consequently, it is improbable that subjects who did not see their films felt "denied." The control and assessment feedback groups were run during the same semesters however, so some had counseling and some did not. We expected that controls might feel denied. Some comments of subjects during exit interviews indicate that the contrary might have been the case. The assessment feedback subjects who saw their counselors but did not see their films were the ones who commented adversely. We surmise that counseling begins a relationship and arouses expectations about that relationship so that partial treatment is perceived as denial and that expectations aroused need to be satisfied. However it is also possible that subjects who did not see their films had more anxiety about their films and about what the films might reveal to others and that this anxiety was heightened by being 'observed" during counseling.

CHARACTERISTICS OF COUNSELORS

Another question which might be raised concerns the characteristics of counselors required to educate teachers this way, and the expense in professional time involved. In this study, where counselors were feeling their way, a high level of professional competence seemed required. Whatever they did seemed to work fairly well. It is interesting to note that although different counselors worked with elementary and secondary subjects, the effects of treatments on subjects were similar. We do not know whether a similarly high level of competence (Ph.D. in counseling or clinical psychology, plus experience) is required for using these procedures or whether some aspects of the treatments can be specified and made available to other professional persons, for example, educational psychology instructors who are not trained as therapists. Detailed analyses of treatment records now underway may help to answer this question.

INDIVIDUAL CHANGE

How do we know that the treatments were actually "personalized" or "individualized," i.e., that changes occurred in individuals as well as between groups? At the moment, we do not know; but change for each individual is now being assessed, to discover whether individuals resolved idiosyncratic problems and whether they changed in different directions. We observed clinically, for example, that whereas one subject's problem might be taking too much initiative (or talking too much), another's might be the opposite, taking too little initiative. We are now attempting to describe individual pre-treatment problems and estimate individual change on these individual problems. Some very tentative evidence indicates that some problems are more susceptible of change and others are more resistant to change, at least by means of the preparation these subjects received. We hope soon to be able to describe common pre-preparation problems of new teachers. If we can actually differentiate pre-preparation problems which are more and less resistant to change, such information will be useful in specifying which kinds of teachers and which kinds of treatments might be expected to show which kinds of change.

DIRECTIONS OF FUTURE RESEARCH

Generally, the hypotheses which we hope will eventually emerge should be complex hypotheses that respond to the question: Which kinds of teachers, with what kinds of preparation and what kinds of goals, using which procedures, elicit what responses from which children in what situations? We might want to propose, for example (and this is merely illustrative), that on "X," lower class primary children do better with warm, businesslike teachers who use a tutorial style; middle class primary children do better with warm, slipshod teachers who use either inquiry or tutorial styles; intermediate junior high students improve on "X" with stimulating teachers, regardless of teaching style or method; that supervisors predict gain on "X" for businesslike, poised teachers who use inquiry method regardless of grade level, etc. Such complex hypotheses would of course draw on many research sources, as well as on multiple analyses of data gathered in this study and in the Research and Development Center for Teacher Education which is continuing the work begun here.

In a current project, for example, known as Individualized Teaching for Effective Coping, this kind of investigation is underway. A central aim of the project is to try out certain ways of educating in-service teachers to individualize and personalize their instruction of certain selected pupils. This carries to its logical conclusion the principle that guided this PEB project: to help teachers to deal with children as individuals whose idiosyncratic natures and needs they work to identify. At the same time, pre-post assessment, over the year, is made of cognitive and affective changes in all the pupils in these classes. The teachers are collaborating in a parallel program which assesses (by written instruments and by repeated video tapes) their attitudes and their ways of dealing with pupils. Analysis of these data will yield some beginning insights into the differential impact of different styles of teaching on different kinds of children. An experimental-control design will also permit a test of the efficacy of the consultation procedures that are intended to help the teachers to personalize their instruction of a small, selected subsample of pupils.

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APPENDIX A

Bown Self-Report Inventory

SELF-REPORT INVENTORY

Form R-3

OLIVER H. BOWN

THE UNIVERSITY OF TEXAS

Name .... Sex.................
(Print) Last First Middle

Course and Section .... Date ....

After filling in the information requested above, please turn immediately to page 4 and read directions carefully.

This instrument was developed and refined under the auspices of the Mental Health in Teacher Education Demonstration-Research Project supported by the National Institute of Mental Health (Grant 2M-6635) and the University of Texas.

	Like me A	B	C	D	Unlike me E
1. The way I get along with my friends is extremely important to me.	☐	☐	☐	☐	☐
2. I resist getting down to work and often have to drive myself to get it done.	☐	☐	☐	☐	☐
3. In their relationship with me, my parents were always basically kind, considerate and understanding.	☐	☐	☐	☐	☐
4. I really look forward to the time when I will be settled down to my life's work.	☐	☐	☐	☐	☐
5. I have almost always resented people who were in a position to tell me what to do.	☐	☐	☐	☐	☐
6. I'm very comfortable and happy when I am with children.	☐	☐	☐	☐	☐
7. I don't seem to have very much basic respect for myself.	☐	☐	☐	☐	☐
8. I live in accordance with the idea that "It is better to have loved and lost than never to have loved at all."	☐	☐	☐	☐	☐
9. In the past, I have usually avoided working any harder than was necessary to get by.	☐	☐	☐	☐	☐
10. I look forward to living and working with other people as an important and influential part of their lives.	☐	☐	☐	☐	☐
11. Very often I have envied other people who have had so much more fun with their parents than I.	☐	☐	☐	☐	☐
12. I feel confident that one day I'll be successfully engaged in what I'm really cut out to do.	☐	☐	☐	☐	☐
13. I feel uncomfortable and artificial in the presence of people who are a good deal older than I.	☐	☐	☐	☐	☐
14. It has always been easy for me to express affection toward young children.	☐	☐	☐	☐	☐
15. I feel sour and pessimistic about life in general.	☐	☐	☐	☐	☐
16. One thing I just can't stand is uncertainty.	☐	☐	☐	☐	☐
17. I used to wish very often that my parents and I could be much closer.	☐	☐	☐	☐	☐
18. I really dread the thought of finishing school and settling down to a lifetime of hard, steady work and increased responsibility for myself and others.	☐	☐	☐	☐	☐
19. I am able to relate to children quite easily, and this is very important to me.	☐	☐	☐	☐	☐
20. Thinking back, in a good many ways I don't think I have liked myself very well.	☐	☐	☐	☐	☐
21. One of the most important things to me about any job I hold in the future is having a good relationship with my boss.	☐	☐	☐	☐	☐
22. The idea of death has always made me feel uneasy, helpless and a little futile.	☐	☐	☐	☐	☐
23. I like people very much.	☐	☐	☐	☐	☐
24. I have always maintained a good healthy balance between work and play.	☐	☐	☐	☐	☐

S	O	C	A	W	R	P	H	T
____	____	____	____	____	____	____	____	____

		Like me				Unlike me
		A	B	C	D	E
25.	Looking ahead a few years, I don't think that I will be the kind of person who would get much personal satisfaction out of teaching children of elementary school age.	☐	☐	☐	☐	☐
26.	In almost every respect, I'm very glad to be the person I am.	☐	☐	☐	☐	☐
27.	My parents and I may get along all right on the surface, but down deep I wonder if we even know each other.	☐	☐	☐	☐	☐
28.	While I can't prove it, I'm willing to bet that I'm going to become a more and more happy and significant person.	☐	☐	☐	☐	☐
29.	I do my work just to get it over with rather than because I get real satisfaction from doing it.	☐	☐	☐	☐	☐
30.	I've always been fascinated with getting to know people whether they were good, bad, or indifferent.	☐	☐	☐	☐	☐
31.	I have resented very much having to do things that were expected of me.	☐	☐	☐	☐	☐
32.	I feel that satisfaction and dissatisfaction, joy and suffering, life and death are all meaningful parts of a process which I may not fully understand but by which I am deeply moved.	☐	☐	☐	☐	☐
33.	When I think about the kind of person that I have been in the past, it doesn't make me feel very happy or proud.	☐	☐	☐	☐	☐
34.	I really enjoy getting to know people who are in positions of authority.	☐	☐	☐	☐	☐
35.	I used to regard young children as a pain in the neck.	☐	☐	☐	☐	☐
36.	I'm quite consistent in tackling the work I need to do rather than putting it off until the last minute.	☐	☐	☐	☐	☐
37.	The fact that the people whom I love most will someday die will always seem to me to be cruel and unfair.	☐	☐	☐	☐	☐
38.	People have not been as important to me as they are to most others in determining how satisfied and secure I have felt.	☐	☐	☐	☐	☐
39.	I feel confident that in the really important ways, I will be a good parent.	☐	☐	☐	☐	☐
40.	Doing a good job in anything that I undertake is very important to my sense of well-being.	☐	☐	☐	☐	☐
41.	My parents and I have a great deal of mutual respect, faith, and confidence in one another.	☐	☐	☐	☐	☐
42.	I'd give a good deal to be very different than I am.	☐	☐	☐	☐	☐
43.	I think I will always have close, rich, full relationships with a good many people.	☐	☐	☐	☐	☐
44.	I suppose there will always be someone to whom I will be responsible in one way or another, but I don't expect that I will ever like it.	☐	☐	☐	☐	☐
45.	I have always been very fond of younger children.	☐	☐	☐	☐	☐
46.	I am very happy with my present relationship with my parents.	☐	☐	☐	☐	☐
47.	I don't really expect that I will ever be close friends with many people my own age.	☐	☐	☐	☐	☐
48.	The sheer joy of being alive has often been a compelling force in my life.	☐	☐	☐	☐	☐

DIRECTIONS

Please print your name and provide the other information requested on the cover of this booklet.

On pages 2 and 3, there are forty-eight statements which express various ideas, feelings, and reactions. You are asked to rate each statement in accordance with how well it expresses your own thoughts or feelings. There are no right or wrong answers. The usefulness of the instrument depends entirely on the extent to which you indicate *how you actually think or feel* rather than how you would *like* to feel or how you think you *should* feel. This inventory is being administered for research purposes, and your individual responses will be held in strict confidence.

Please record your rating of each item by placing an X in one of the boxes following each statement. There are five alternative responses indicating the extent to which the statement expresses what you actually think or feel:

The statement expresses:

A. Exactly what I think or feel *or* what I think or feel almost all the time.

B. Primarily what I think or feel *or* what I think or feel most of the time.

C. Something about which I do not particularly think or feel one way or the other *or* something I think or feel about half the time.

D. Something which is almost the opposite of what I think or feel *or* something which I think or feel very seldom.

E. Exactly what I *do not* think or feel *or* what I think or feel almost never.

Please work rapidly and use your first impression as a basis for your response. *Do not omit any item.*

APPENDIX B

One-Word Sentence Completion

ONE-WORD SENTENCE COMPLETION

Form 4-A

ROBERT F. PECK and DONALD J. VELDMAN

THE UNIVERSITY OF TEXAS

Name..Date..

Course & Section...Age.......................Sex...

Here are the beginnings of some sentences. Simply complete each sentence with the first word that comes to mind. Use only *one* word to complete each item. Try to avoid cliches, as much as possible. There are no right or wrong answers. If you can't think of a word to finish a sentence right away, skip it and *come back later* to finish the one you have not completed. When you finish, check your answers to be sure you have used *no more than one word* for each. This instrument is being administered for the purposes of research and/or individual guidance, and your responses to individual items will be held in strict professional confidence.

1. ....makes me happy.
2. Other people think that I am ....
3. My childhood was ....
4. Most people can ....better than I.
5. Disciplining children is..
6. I have been ....in my work.
7. My favorite teacher was particularly..
8. I.. when put under pressure.
9. I feel tired..
10. ....is exciting.
11. I find it hardest to stop my habit of..
12. Bosses are ....
13. Most people don't know that I am really..
14. I.. myself as an adolescent.
15. The average person is..
16. I can't stand children who..
17. I feel ....when others do better.

18. The typical teacher is...

19. It would be ....to give me authority.

20. When they avoid me, I try to...them.

21. .... makes me feel proud.

22. Darkness is ....

23. My mind is ....

24. Now and then I feel very..

25. My father ....me.

26. Many girls my age are..

27. The children of ....parents are lucky.

28. An ambitious woman is often..

29. ....people make the worst teachers.

30. My..sometimes holds me back.

31. My..sometimes gets me into trouble.

32. .... feels good.

33. Walking barefoot in the mud would be..

34. Closer and closer..comes.

35. Secretly, I often dream of..

36. My mother ....me.

37. Being with other people..me.

38. Explaining something to a child is..

39. I see ....when I look ahead.

40. The best part of teaching would be the..

41. When I need help, I usually depend on..

42. I suffer most from..

43. I feel ....when I see hills.

44. Most men are..

45. God is ....

46. If only my parents were more..

47. Men often ....women.

48. Women often ....men.

49. What I want to do most is..

50. "..,"she answered.

51. ....is the easiest way to get money.

52. Nothing is more frustrating than..

53. ....is the hope of the world.

54. If I only had..

55. I feel ....when I think of myself as a woman.

56. My father's chief fault is his..

57. Children are happiest when they can be..

58. I work hardest for ....

59. Teachers have a lot of..

60. It is so depressing to be..

61. I hope I never..

62. Firm control leads to..

63. My mother's chief fault is her..

64. ....makes me furious.

65. My..is my best quality.

66. Most education courses are..

67. ....is disgusting.

68. My body is ....

69. Someday I plan to be ....

70. My father's best quality is his ....

71. I used to be crazy to think I was ....

72. Until recently I wanted to be ....

73. My mother's best quality is her ....

74. When I let go, I ....

75. Ten years from now I will be ....

76. .... is a sign of strength.

77. If I were a child again, I would .... more than I did.

78. I used to be ....

79. I wish men were more ....

80. Home is ....

81. When an animal is wild, it is ....

82. The .... quivered.

83. The color of Saturday night is ....

84. I will probably live to the age of ....

85. .... is the best measure of success.

86. I am .... about who I am and where I am going.

87. I don't like to think about ....

88. The opposite of fun is ....

89. Failure is usually due to ....

90. Real-life stories usually have .... endings.

APPENDIX C

Format for Conducting Exit Interviews

EXIT INTERVIEW

Instruction to Interviewer

By and large, it has been our feeling that terminal interviews have been a pleasant and rewarding experience both for us and the student. The students have been unusually honest and direct, partly because by this time they have become used to opening up to project staff, and partly because of the way we structure the interview. In opening (and structuring) the interview, we make several points which are something like this -- in capsule form: (You will want to elaborate or minimize these in accordance with your own real feelings in the matter.)

1. You have now completed the program, as far as the project is concerned; you are a graduate; there is nothing more that can happen to you. You are now, for better or worse, a colleague in this business of education. You are an immediate recipient of the program, and you and your fellow-students are the only ones who can tell us what it was really like. This is between us; please help me and the future program by leveling completely.

2. We will take seriously what you have to say. Student gripes are not new to us, and we're fairly shock-proof. But this is not just more data that we're gathering on your reactions. You are an expert on what kinds of impact the program really has and on where we're just going through a lot of motions. We'll not only listen to what you have to say, but the program may be different next year through your suggestions. This has actually happened a good many times in the past.

3. My questions will range somewhat beyond your immediate reactions to the program itself. This is not to be nosey but because we know that a lot more goes into the making of a teacher beside a few courses in a program.

Try to keep the interview extremely open-ended, let them talk freely and wander where they will while you keep busy with note taking. This usually turns out to be flattering in the sense that it reinforces the fact that you are taking what they say seriously. In asking the leading questions, however, try to be direct, succinct and to the point so that they don't get the impression that you are just fishing for free association. (If you tape record note taking can be eliminated.)

Now to the questions themselves. Each question is an attempt to tap an area and can probably be asked in six different ways and may actually need to be varied based on the reaction of the student to the interview, leads that you pick up in responses to previous questions, etc.

1. Now that you have completed your teacher training, what are your reactions at this point?

2. What are your plans for the future? Plan to teach? where, when, how combine marriage with teaching. Are plans definite or vague. Were they crystalized at some particular point. What are your long-range hopes? What do you hope to be doing five, ten years from now.

3. How did you get into teaching? When did your interest begin? What has influenced this choice? Parents? Previous teachers? People, experience at university?

4. What unique, personal characteristics do you think you bring to teaching and what or who has been most influential in fostering the development of these characteristics? Or (even tougher) looking back over your entire life, what have been the most salient experiences/people in making you the person that you are?

5. Thinking of yourself as you are now and of yourself as you were when you entered college, are there basic, important differences? What are they and what was most important in producing the change? (Major impact of the college years.)

6. (Evaluation of specific impact of various courses in education.) In what ways do you feel prepared and unprepared and what courses are responsible? (Be sure to get full evaluation of whatever experimental intervention they received -- film feedback, test interpretations and other experiences. Also, explore their estimate of effect of supervisor, cooperating teacher, school assigned, principal, particular class assigned, etc.)

7. Thinking of yourself as a regular teacher, what would be the characteristics of an ideal school situation and the opposite?

Explain briefly our possible uses of their films and obtain their signature on the clearance form.

Thank them enthusiastically and lavishly for their help and cooperation throughout the project and for this interview specifically.

APPENDIX D

Self-Evaluation Form

Name ____________________

Date ____________________

SELF-EVALUATION FORM

This questionnaire contains questions about your experience as a student in the College of Education teacher-education program. The answers you record here will be used solely for research purposes, and will be kept confidential along with the other forms you have filled out as part of this project.

We realize that accurate self-evaluation is very difficult, but we need your honest and frank answers to these questions. Please accept our thanks for the time and trouble you have contributed in responding to requests such as these; we will do our best to use the data constructively.

1. I found the U.T. teacher education courses in the College of Education to be
    a. very much better than I had expected
    b. somewhat better than I had expected
    c. about the same as I had expected
    d. somewhat poorer than I had expected
    e. very much poorer than I had expected
2. Generally, the instructors in my College of Education courses were
    a. very much poorer than in other courses
    b. somewhat poorer than in other courses
    c. about the same as in other courses
    d. somewhat better than in other courses
    e. very much better than in other courses

3. As a result of my experiences in College of Education courses, m opinion of the teaching profession

   a. became very much more positive

   b. became somewhat more positive

   c. was not effected

   d. became somewhat more negative

   e. became very much more negative

4. Compared to the year before I began course work in the College o Education, my intention to actually become a teacher has

   a. lessened a great deal

   b. lessened somewhat

   c. stayed about the same

   d. increased somewhat

   e. increased a great deal

In the following series of items, please place one check between eac pair of adjectives to register your present opinion of the word or phrase at the beginning of each series. If both adjectives apply equally, check the middle of the scale.

COLLEGE OF EDUCATION COURSES

5. Worthwhile ____ ____ ____ ____ ____ Useless

6. Dull ____ ____ ____ ____ ____ Interestin

7. Personal ____ ____ ____ ____ ____ Impersonal

8. Simple ____ ____ ____ ____ ____ Difficult

9. Reassuring ____ ____ ____ ____ ____ Disturbing

PSYCHOLOGICAL TESTING

10. Useless _____ _____ _____ _____ _____ Worthwhile
11. Interesting _____ _____ _____ _____ _____ Dull
12. Impersonal _____ _____ _____ _____ _____ Personal
13. Difficult _____ _____ _____ _____ _____ Simple
14. Disturbing _____ _____ _____ _____ _____ Reassuring

TEACHING AS A CAREER

15. Worthwhile _____ _____ _____ _____ _____ Useless
16. Dull _____ _____ _____ _____ _____ Interesting
17. Personal _____ _____ _____ _____ _____ Impersonal
18. Simple _____ _____ _____ _____ _____ Difficult
19. Reassuring _____ _____ _____ _____ _____ Disturbing

20. I (have) (do not have) a relative or close friend who has held a teaching position. (Underline one.)

MY OWN TEACHING PERFORMANCE

21. Warm, Friendly, Cheerful _____ _____ _____ _____ _____ Cool, Distan Gloomy
22. Poised, Self-confident _____ _____ _____ _____ _____ Nervous, sel doubting
23. Interesting, Lively _____ _____ _____ _____ _____ Dull, Routin
24. Strict, Efficient _____ _____ _____ _____ _____ Loose, Wandering
25. Democratic _____ _____ _____ _____ _____ Autocratic
26. Generally Excellent _____ _____ _____ _____ _____ Generally Terrible
27. Better than I had expected _____ _____ _____ _____ _____ Worse than I had expected

28. Likely to improve	___	___	___	___	___	Not likely to im prove
29. Helped by Cooperating Teacher	___	___	___	___	___	Hindered by Cooperating Teac
30. Helped by Supervising Professor	___	___	___	___	___	Hindered by Supe vising Professo
31. Helped by earlier courses	___	___	___	___	___	Hindered by earl courses
32. Helped by psychological testing	___	___	___	___	___	Hindered by psyc logical testing
33. Helped by filming	___	___	___	___	___	Hindered by film

Answer applicable items:

34. Helped by conferences about filming	___	___	___	___	___	Hindered by conf ences about film
35. Helped by conferences with psychologist	___	___	___	___	___	Hindered by conf ences with psych logist
36. Helped by 3-way conferences	___	___	___	___	___	Hindered by 3-wa conferences

Please use the remaining space to tell us whatever you believe might he us to improve the quality of teacher education at the University of Tex We would also appreciate your comments on the conduct of the testing and evaluation program of which this questionnaire is a part.

APPENDIX E

Fuller Analysis of Interacting Responses (FAIR)

FAIR 13

FAIR 33

FAIR 13

(13 Category System)

Teacher categories

F Accepts feelings and/or recognizes original ideas. Really hears and understands in a nonthreatening manner. Feelings may be positive or negative; original ideas may be content relevant or irrelevant. Predicting and recalling feelings are included.

N Encourages or shows warmth by speech, facial expression or bodily movement. Includes jokes that release tension, not at the expense of another individual, a smile which is discrete rather than fixed, nodding head, saying "uhhuh?", "go on", and any movement indicating teacher is "with" the class.

I Accepts or uses routine responses of student(s). As a teacher brings more of his own ideas into play, shift to category L.

Q Asks questions: asking a question about content or procedure with the intent that a student answer.

D Gives directions: directions, commands, or orders with which a student is expected to comply.

L Lectures: Gives facts or opinions about content or procedure; expresses his own ideas. The criterion is content relevance even though it may be stated in the form of a question or opinion.

C Criticizing or correcting: Any statement intended to change student behavior from non-acceptable to acceptable pattern. May be hostile or benevolent.

Traveling: uses words or phrases like "good", "ok", "that's fine" as merely transitional noises to move on to the next thought. DO NOT RATE.

Pupil categories

Responses by several pupils simultaneously will be classified as by one pupil. Silence not due to technical failure and not indicating change in previous emotional tone or in category will not be rated.

V Response initiated by pupil (interested or without marked affect): talk by students which they volunteer.

E Enthusiastic or interested pupil response solicited by teacher (positive affect). Teacher initiates the contact or solicits student statement and student answers by waving hand or with other signs of interest. Must be seen by rater, not just heard or inferred.

R Routine pupil response elicited by teacher (no affect): talk by students in response to teacher. Teacher initiates the contact or solicits student statement. Behavior need not be seen, but must be heard.

W Pupil response in form of silent work such as reading, test taking, blackboard work, handcrafts, or helping teacher.

H Attention lapse. Hostile, defiant, cold, bored, or inattentive pupil behavior elicited by teacher or initiated by pupil. This includes all verbal behavior which is irrelevant to class activity inappropriate physical behavior distracting to other pupils or the teacher, waving at the camera, looking away, reading during discussion, playing with objects, etc.

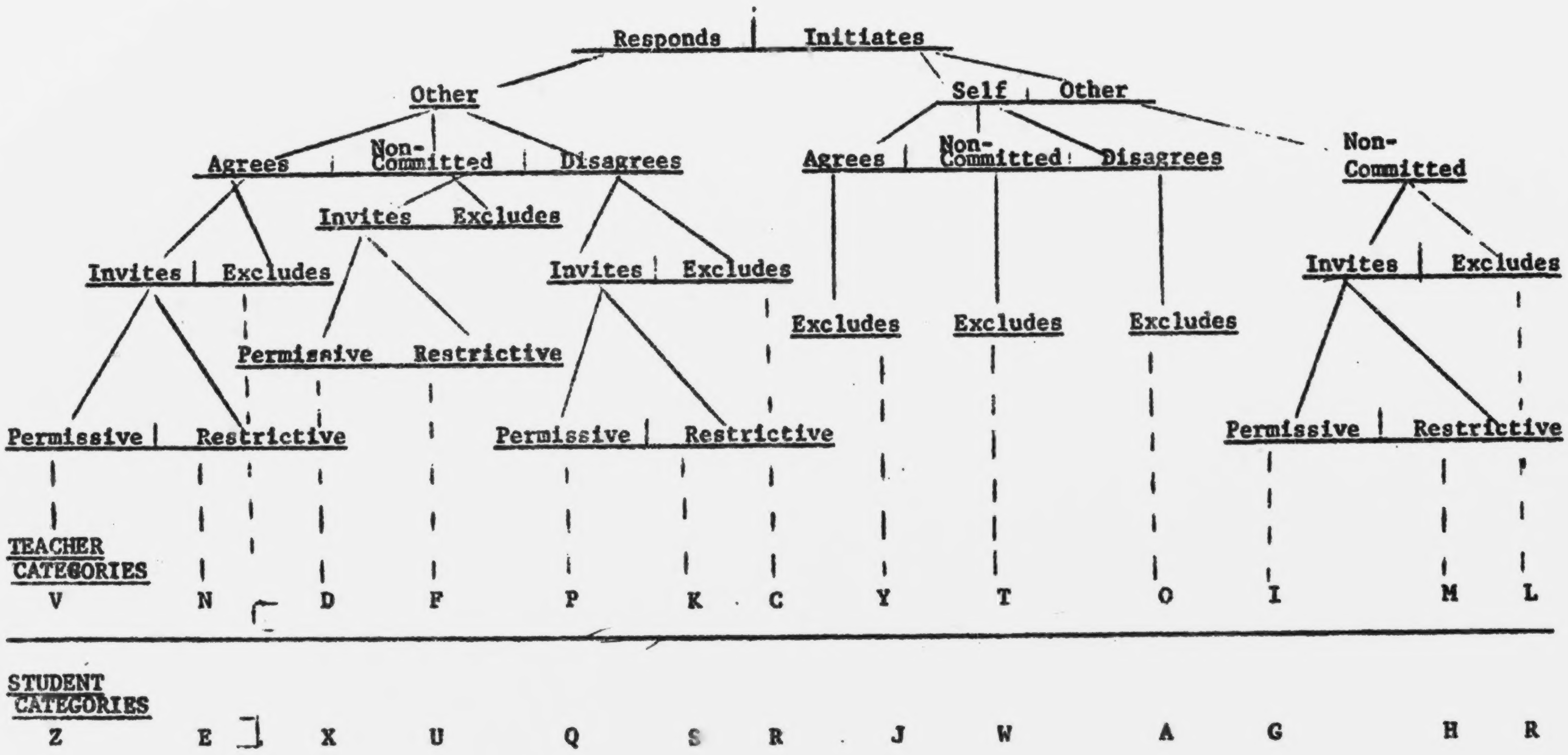
Technical category

K Periods in which there is no basis for judgment: camera fades out, no sound, no persons in camera range, general noise which is not a continuation of previous classification but does not fit any other category, sound garbled, etc. Rating can take place only when both sound and picture are perceived.

FAIR 33

(33 Category System)

Dimensions Represented In Teacher and Student Categories


Responds
Initiates
Other
Self
Other
Agrees
Non-Committed
Disagrees
Agrees
Non-Committed
Disagrees
Non-Committed
Invites
Excludes
Invites
Excludes
Invites
Excludes
Invites
Excludes
Excludes
Excludes
Excludes
Permissive
Restrictive
Permissive
Restrictive
Permissive
Restrictive
Permissive
Restrictive
TEACHER CATEGORIES
V N D F P K C Y T O I M L
STUDENT CATEGORIES
Z E X U Q S R J W A G H R

Dimension Combinations Within FAIR

There are 28 categories derived from 14 dimension combinations:*

Dimensions						Categories	
						Teacher	Student
Responds	Other	Agrees	Invites	Permissive	(ROAIP)	V	Z
Responds	Other	Agrees	Invites	Restrictive	(ROAIR)	N	E
Responds	Other	Agrees	Excludes	---	(ROAE)	[illegible]	[illegible]
Responds	Other	Non-committed	Invites	Permissive	(RONIP)	D	X
Responds	Other	Non-committed	Invites	Restrictive	(RONIR)	F	U
Responds	Other	Disagrees	Invites	Permissive	(RODIP)	P	Q
Responds	Other	Disagrees	Invites	Restrictive	(RODIR)	K	S
Responds	Other	Disagrees	Excludes	---	(RODE)	C	R
Initiates	Self	Agrees	Excludes	---	(ISAE)	Y	J
Initiates	Self	Non-committed	Excludes	---	(ISNE)	T	W
Initiates	Self	Disagrees	Excludes	---	(ISDE)	O	A
Initiates	Other	Non-committed	Invites	Permissive	(IONIP)	I	G
Initiates	Other	Non-committed	Invites	Restrictive	(IONIR)	M	H
Initiates	Other	Non-committed	Excludes	---	(IONE)	L	B

*4 additional categories, unrelated to these dimensions, are included in the FAIR System

FAIR 33 CATEGORIES*

Dimensions	Flexowriter Code	Teacher Categories	Flexowriter Code	Student Categories
ROAIP "I appreciate how you feel.'	V	Values. Values feelings; identifies; shares. Listens attentively. Unqualified acceptance. Includes laughing with someone, "I feel that way too." (Person oriented.)	Z	Zeal. Student responds eagerly; waves hand. Listens attentively. Values or recognizes another's feelings. Includes pleasure, appreciation, good mood, laughing with someone. "Oh, Boy!" "Me first!" (Affect.)
ROAIR "You're doing fine! Go on!"	N	Nurtures. Teacher gives focused encouragement. Guides. Hints. "Come on, Johnny, you know this one." Gives praise, approval to previous behavior. Smiles. Includes recognition of student volunteer, and "Thank you for helping me." (Affect.)	E	Encourages. Encourages teacher or another student to go on. Includes "Thank you for helping me." Gives approval; praises. "You got it right." Includes choosing in a game, election, panel.
ROAE "Okay."	[	O.K. "That's the right answer." Confirms content in drill pattern without using student response or shifting.	]	O.K. Any acknowledgment that the teacher is right (acquiescence), that is not included in another category. Includes "Yes, sir." "Yes, ma'am."

---

*The authors wish to acknowledge the contributions of Millicent Melhado and I. Dorothy Albrecht in differentiating behaviors and providing illustrations for categories.

FAIR 33 CATEGORIES (continued)

Dimensions	Flexowriter Code	Teacher Categories	Flexowriter Code	Student Categories
RONIP "What do you mean? Tell me more."	D	Delves. Probes the meaning of a student response. Asks for more information about a student response. Asks for feedback on teacher (own) interpretation, reflection, or incorporation of student idea. "Do I understand?" "What do you think of what Bill said?" Correctness of student response is not an issue. (Task oriented.)	X	eXplores. Student asks for information; may be incorporating teacher idea in response. Student gets teacher or another student to give idea, talk. "But why?" "Is it like what we did yesterday?" (Task oriented.)
RONIR "Here's what you want to know."	F	conFirms. Incorporates student ideas and uses them in lecture. Responsively gives information or opinion; attentive to student feedback and questions. Includes repeating; also, interrupting self to call on a student. Shifts action on basis of previous student response, suggestion.	U	Usual. Routine feedback in response to teacher direction, questions, whether response is correct or not.
RODIP "I'm not sure I understand."	P	Ponders. "I'm not sure." "Well... maybe, but..." Ponders a student response or expresses doubt. "I wonder though..." Qualified acceptance. Disagrees with response given, but seeks alternatives. Includes "Don't you understand?"	Q	Questions. Questions or ponders a preceding response by doubting, arguing, or bringing up new information. "But yesterday..." "I don't get it."

FAIR 33 CATEGORIES (continued)

Dimensions	Flexowriter Code	Teacher Categories	Flexowriter Code	Student Categories
RODIR "No. Do it this way."	K	Korrects. "That's the wrong answer." "Do this." "Quit that." Behavior change requested is specified. Corrects or questions what preceded; opportunity for right response offered. May be serious or humorous.	S	Suggests. Student requests change of behavior. Makes correcting suggestion. "Why don't we..." May be serious or humorous.
RODE "You're wrong (and that's that!)"	C	Criticizes. Minimally student behavior condemned. Change of behavior requested but no "second chance" given to make correction. Includes cold, hostile, sarcastic remarks, scolding, teasing, and belittling.	R	Resists. Student resists. Openly ignores teqcher, e.g. rudeness, hostility, aggressive antipathy, obvious footdragging, "Aw, nuts."
ISAE "Good for me!"	Y	Yea. Teacher praises self; expresses self-approval. "I was right in the first place." Includes denial of mistake. "I didn't add it wrong." "That was the right thing for me to do." "I still think I'm right."	J	reJoice. Student praises self; expresses self-approval. "I got it right." "Now I understand."
ISNE "I'm in a world of my own."	T	Tangential. Tangential talk or action to self. Teacher "out to lunch." Sighs; looks out window. Fusses with objects, shuffles papers, stands by indecisively.	W	Woolgathering. Extraneous behavior with only self involved. Not work oriented. Bored, yawning, sleeping. Includes rest periods in primary.

FAIR 33 CATEGORIES (continued)

Dimensions	Flexowriter Code	Teacher Categories	Flexowriter Code	Student Categories
ISDE "I'm wrong."	O	Owns up. Scolds self; expresses self-disapproval; admits error. "I don't know what's the matter with me today." Here's my mistake." "That was the wrong thing for me to do." Checks own board work. Checks her own grading of student work (including at request of student.)	A	Admits. Students owns up or admits error. "I don't understand." "I got that one wrong." Expresses self-disapproval. Includes self-punitive actions: banging fist on desk, if directed against self.
IONIP "I'd like to know..."	I	Initiates. Initiates a probe or asks broad question. (Open-ended question: "What if...").	G	Generates. Student initiates; asks for new information on own or offers own ideas.
IONIR "I want you to tell (or do) this..."	M	Manages. Teacher gives procedural directions. Teacher asks narrow question (questions with specific, predictable answer.) May be either substantive or procedural.	H	How. Student asks for "the" answer; asks for directions on how to do something without reference to preceding teacher behavior. Asks if preceding answer is right; also, if it is O.K. to do something.
IONE "I'm telling you this."	L	Lectures. Gives information or opinion; not in response to feedback. Students are passively receptive (listening.) Includes ignoring student attempts to participate.	B	Brings out. Student gives information or opinion. Reads report; recites.

FAIR 33 CATEGORIES (continued)

	Flexowriter Code	Teacher Categories	Flexowriter Code	Student Categories
Relevant non-interaction	.	Solitary work: grading papers, writing on board without reference to students, arranging material, bulletin board, operating projector.	,	Solitary work: Activity which is not under immediate supervision (individual or group); such as: doing assignments, art work, sharpening pencils, computer assisted instruction.
Irrelevant non-interaction	*	Interruptions of external origin, during which there is no teacher/student interaction, e.g., P.A. system blurts out; someone comes to door to pick up attendance slips.		
Technical failure or irrelevant camera focus	-	Quality and/or focus of sound and/or picture inadequate for coding. (e.g. loss of picture and garbled sound; camera focuses on visitors in back of room.)		
Inaudible student response	Space Bar	Student response is made, but audio pick-up is inadequate		

Supplementary Category Systems to the FAIR .

I. Participation - ("Where is the action?" "How many people are actively involved?")

A. Coding:

0 = Non-interaction between teacher and students.

(Includes technical failure; also, interruptions of classroom activity; e.g. P.A. system in use, someone coming in to pick up attendance slips, someone stopping at door to talk with teacher.)

1 = Teacher interacting with the same single student.

2 = Teacher interacting with a different single student. (When interaction involves teacher with two single students, code 1-2 alternately. If interaction involves a 3rd., 4th, etc. single student, still code 1-2 alternately.)

3 = Teacher interacting with small group. (Includes addressing a question to a group without naming a single student)

4 = Teacher interacting with whole class. (Includes question or statement to the whole class without naming a single student.)

5 = Individual or group work independent of teacher.

6 = Individual or group work while teacher circulates or constantly available.

B. Continuous coding; i.e. when using Mode 1, the snake-coffin, coders connect codes with a horizontal line; when using Mode 2, the Flexowriter, any code is automatically repeated until a change of code appears.

II. Simultaneous - ("What FAIR codeable behaviors are occurring concurrently with FAIR-coded behavior?")

A. Coding: Ignore mainstream of teacher-student interaction. Code behaviors occurring in addition to student-teacher interaction. This will probably be mainly student-student interaction or interaction with visitors or other adults.

Use appropriate FAIR category codes.

B. Continuous coding

When using Mode 1, the snake-coffin, coders indicate duration of behavior by a horizontal line until the behavior is no longer observed. Intervals without simulataneous behaviors are coded with a + symbol and followed by a horizontal line until the next simultaneous behavior appears. When using Mode 2, the Flexowriter, any code is automatically repeated until a change of code appears. This includes the + code.

III. Functional Time Use - ("How is classroom time used?" Involves large time blocks.)

A. Coding:

0 = Technical failure.

1 = Administrative routine.

(Includes getting class settled; roll call; announcements.)

2 = Introduction.

(Gaining class attention; motivating; stating purposes, and "what we are going to do" sequences.)

3 = New material and experiences.

(Includes using previous material or experiences in developing the lesson; when not used in this way, code 7. Includes teacher clearly bringing up new material. Does not include bits of new material in review.)

4 = Reports; performance.

(Includes student presentation of work done prior to class.)

5 = Drill.

(Includes repetitive practice activities.)

6 = Evaluation.

(Includes tests or quizzes.)

7 = Review and summary.

(Includes re-statement of what has gone before, either that day or earlier.)

8 = Competitive games.
(Includes spelling bees.)

9 = None of the above.

B. Continuous coding; i.e. when using Mode 1, the snake-coffin, coders connect codes with a horizontal line; when using Mode 2, the Flexowriter, any code is automatically repeated until a change of code appears.

APPENDIX F

Mechanical Aids Used in Coding

MECHANICAL AIDS USED IN CODING

Projector

Films were viewed with a Kodak Sound 8 Projector manufactured by Eastman Kodak Company. This projector is especially designed to utilize 8mm film striped for magnetic sound.

Rheostat Modification

A rheostat modification was mounted with a control knob in the rear of the projectors to allow the film to be projected at slightly varying speeds in order to compensate for variation in recording speeds and to eliminate sound distortions.

Judging Station

While viewing the film, judges sit at a box-shaped table designed especially for film rating.

The box-shaped table contains a roll of paper tape which is moved past the observers at a constant speed.

The top of the table forms a lid which, when closed, forms the mask under which the tape passes. Four small windows are staggered diagonally across the top of the table providing access to the paper tape for recording observations of teacher-pupil interaction.

The window at each judging station provides the observer with tactile clues so that he can mark the tape without diverting his attention from the film being projected.

Coded Tape

After the films are viewed and the codes of the film judges recorded, cards are punched and data can be processed by computer.

Flexowriter

A new system for the quantification of video data has been developed and installed at R & D.

Using the Flexowriter typewriter, the judge rater types the appropriate symbols as he observes behavior changes on the video screen.

The printed symbols appear on a paper roll much in the same manner as a conventional typewriter. Simultaneously, a punched paper tape containing the same codes is produced. This punched tape can be automatically transferred to magnetic tape for computer processing.

Further information, including diagrams of equipment can be obtained by requesting from the Dissemination Division of this Center a reprint of the article "Mechanical and Electronic Equipment to Facilitate Behavior Description."

APPENDIX G

Teacher Assessment Form

TEACHER ASSESSMENT FORM 1964

Subject's Name: ______________________________ Code No: __________

Rater's Name: ____

Date Rated: ___________________________ Sex of Subject __________

Basis of Rating: ____

	DIMENSIONS	HIGH						LOW
I	Energy	1	2	3	4	5	6	7
II	Projection of High Value on Subject Matter as a Part of Learning	1	2	3	4	5	6	7
III	Self-Confidence as a Teacher	1	2	3	4	5	6	7
IV	Organizational and Goal Orientation	1	2	3	4	5	6	7
V	Imaginativeness and Creativity	1	2	3	4	5	6	7
VI	Effectiveness of Communication	1	2	3	4	5	6	7
VII	Effectiveness of Teaching Technique	1	2	3	4	5	6	7
VIII	Warmth, Overt Liking for Pupils Emotional Nurturance	1	2	3	4	5	6	7
IX	Openness, Genuineness	1	2	3	4	5	6	7
X	Subject Matter Competence	1	2	3	4	5	6	7
XI	Level of Sophistication Regarding Teaching-Learning Process	1	2	3	4	5	6	7
XII	Rater's Qualitative Statement Use Page 2							
XIII	General Overall Competence as a teacher	1	2	3	4	5	6	7

XIV

Subject's Name:______________________ Code No:__________

Rater's Name:______________________________________

Date Rated:______________________ Sex of Subject_____

Basis of Rating:____________________________________

Use this space to describe qualitatively the most salient characteristics of the teacher's behavior, as you observe him.

APPENDIX H

Information for Students Regarding Filming

Information for students regarding elementary school filming

To: Student observers

cc: School Principal, School Secretary, Faculty Colleagues, Project Director, Associate Director, Filming Crew, Classroom Recorder

From: Curriculum & Instruction Supervisor and Educational Psychology Instructor

When: As soon as possible, preferably this coming week, we would appreciate your deciding on a date and time when you and your cooperating teacher prefer to have your class filmed. A sign-up schedule is on the bulletin board at school. Hours regularly available are 8:00, 9:00, 10:00 and 11:00 on Tuesday and Thursday mornings starting Tuesday, _______. Only one class can be filmed during any one hour.

Where: Each class will be filmed in its own classroom, so equipment must be set up at the beginning of the hour. Setting up will take about 15 minutes. If you sign up for 8:00 for example, filming will probably begin at 8:15. (Even though you don't start to teach that early, children will be arriving, etc.)

How Long: The film itself will be about 15 minutes long and will be taken off and on during the hour. In order to place the filmed sequences in their proper context, the recorder, Mrs. __________, will make a record of the hour.

Planning: You may develop any kind of classroom situation you wish, and use any content except basal reader or spelling guide. It is desirable that the film include as many members of the class as possible. Consequently a plan which includes the whole class or a large group is preferable to a small committee or a tutoring session with one child. However, if you feel a small group or a tutoring session would, for any reason, be preferable, that will be fine. The important thing is for you to choose what best suits you and your class.

Written Plan: The photographer needs to have some idea of what is planned so he will know how to set up his equipment. For his use, please fill out the attached form and turn it in to Mrs. ________ the afternoon before your filming.

Purposes: The filming is being done for research purposes only. It is a way of taking samples of classroom behavior. We will merely record what is said and done in the classroom, and will make no judgments about your teaching. In fact, the very reason for the research is the need for more objective records of teaching performance before meaningful judgments are possible.

Uses of the Film: Your performance in the film will NOT affect your grade in any of your courses. Your film will be seen only by professional research workers.

PLEASE FILL OUT THE ATTACHED FORM AND GIVE IT TO Mrs. ________
BY 4:00 p.m. THE DAY BEFORE YOUR FILMING.

APPENDIX I

Junior Teacher's Worksheet

To ____________________

Please fill out this form and give it to the school secretary at least an hour before you are to be filmed or by 8:00 if you are being filmed from 8:00 to 9:00. Please attach a copy of any handout material you will use.

Date of filming__________Room Number____Subject Matter_______

Plan: First I plan to________________________________

____

This will take about ______Minutes________________

During this time I will (sit, stand, etc. in front of room, back of room, etc.)

____

____

The children will probably be (at their desks, on the floor in a circle, etc.)

____

____

Then I plan____

____

____

____

____

____

APPENDIX J

Recorder's Forms

RECORDER'S FORM

I. Preparation for Filming

A. The attitude of the cooperating teacher towards the filming could be best described as:
  1a. Friendly acceptance
  b. Indifference
  c. Anxious
  d. Threatened
  e. Hostile

B. The attitude of the student teacher towards the filming was:
  2a. Warm, friendly
  b. Reserved
  c. Indifferent
  d. Threatened
  e. Hostile

C. The attitude of the students towards the filming can best be described as:
  3a. Cooperative, helpful
  b. Controlled curiosity
  c. Casual matter-of-fact acceptance
  d. Indifference
  e. Chaotic exuberance

II. Classroom Organization

A. The children sat:
  4a. In groups around tables
  b. In a semi-circle around the teacher
  c. In horizontal rows in front of the teacher

B. The visual aids consisted of:
  5a. A variety of highly imaginative content-oriented bullet boards and charts which question the children.
  b. Colorful and pretty content-oriented, but not questionin the children.
  c. Rather dull. Main purpose is to fill space. Student is left out.
  d. Chalkboard
  e. Other

C. The atmosphere of the classroom as a result of discipline techniques seems:
6a. Teacher dominated, rigid, controlled
b. Firm, but spontaneous learning activity
c. Casual, but underlying discipline
d. Chaotic, student dominated

III. Description of Cooperating Teacher

A. The cooperating teacher's attitude toward the student teacher was:
7a. Warm, friendly
b. Reserved
c. Indifferent
d. Hostile

B. The role of the cooperatiing teacher during the filming was:
8a. Passive, unobtrusive
b. Active, interruping

IV. Description of Student Teacher

A. Physical Appearance
The appearance of the student teacher can most adequately be described as:
9a. Very neat and polished
b. Comfortably neat
c. Somewhat disheveled
d. Dowdy

10a. Professional, appropriate
b. More of a coed, less of a teacher
c. Overdressed, inappropriate
d. Underdressed, inappropriate

11a. Fashionable, stylish
b. Bizarre
c. Out of fashion
d. Matronly

B. Emotional Appearance
The emotional appearance of the student teacher can be most adequately described as:
12a. Poised, composed
b. Concerned but serene
c. Moderately nervous and excited
d. Completely disoriented

C. Professional Atiitude
In her role as a teacher she revealed:
13a. Confidence
b. Uncertainty
c. Anxiety and doubting

She regards teaching as:
- 14a. Rewarding, stimulating
  - b. Routine, matter of fact
  - c. Dull, Boring

D. Her reactions to her own mistakes were:
- 15a. Ignoring them
  - b. Laughing at them
  - c. Justifying them
  - d. Admitting and correcting them
  - e. She made nonoticeable mistakes

E. The student teacher's rapport with her class could best be described as:
- 16a. Comradeship
  - b. Role-playing on the part of the teacher
  - c. Indifference through anxiety
  - d. Deliberate boredom

F. When the students present ideas, she:
- 17a. Uses them in developing the lesson
  - b. Accepts them but does not use them
  - c. Generally ignores them
  - d. Generally rejects them

G. She offers encouragement:
- 18a. Frequently
  - b. Occasionally
  - c. Seldom
  - d. Never

H. Her method of criticizing is generally:
- 19a. Constructive and encouraging
  - b. Ridiculing
  - c. Personally offensive, insulting

I. In general the student teacher can best be described as:
- 20a. The constructive individualist
  - b. The warmly understanding person
  - c. The open, unguarded person
  - d. The self-assured, firmly organized person
  - e. The scholar
  - f. The practical psychologist

V. Description of Students

A. The students' attitude towards the student teacher can best be described as:
- 21a. Warm
  - b. Respectful but rigid
  - c. Impersonal
  - d. Actively hostile

B. The students' performance in the teaching situation seemed:
  - 22a. Spontaneous, enthusiastic
  - b. Forced, formal as if rehearsed
  - c. Disinterested, bored
  - d. Hostile

C. In response to the student teacher's teaching methods the class was:
  - 23a. Motivated, alert
  - b. Passively stimulated
  - c. Resistant but cooperative
  - d. Disinterested, uninspired

VI. Description of Lesson

A. The lesson presented was:
  - 24a. Overplanned, rigid, stifling to creativity
  - b. Flexible to the needs and contributions of the students
  - c. Ill planned, disorderly

B. The lesson presentation displayed
  - 25a. Imagination, creativity
  - b. Little thought to originality
  - c. Lack of interest on the part of the teacher

Method: ____________________
____
____

C. When the student teacher asks for contributions, she usually gives preference to:
  - 26a. Those who most actively volunteer
  - b. The female students
  - c. The male students
  - d. Any particular ethnic or racial group
  - e. The reticent shy student
  - f. Arbitrary students

D. When students fail to understand the lesson, her response is generally
  - 27a. Warmly understanding, interested
  - b. Nonchalant, dismissive
  - c. Impatience
  - d. Agitation

E. The most active members of the classroom during the lesson were:
28a. The student teacher and the students
  b. The cooperating teacher and the student teacher
  c. The students
  d. The student teacher

F. The teacher taught:
29a. One group
  b. Two groups
  c. Three groups
  d. More than three groups
  e. Entire class

G. The audio-visual aids:
30a. Were a necessity to the lesson; teacher gave much reference to them.
  b. Undoubtedly supplemented the lesson; served as a review or direction.
  c. Were of questionable use within the lesson. Not often used by the teacher.

H. The level of the content presented was:
31a. Over the students' heads.
  b. About the grade level but still challenging
  c. About the grade level but over simplified
  d. Beneath the grade level

RECORDER'S OBSERVATIONAL REPORTS

I. Topic Information

A. Student teacher's name:

B. Date:

C. Grade:

D. Lesson title:

Stage: Planning, presenting new material, giving presentation, testing, reviewing, other:

Content: Math, science, grammer, literature, French, Spanish, other:

Method: Lecturing, tutorial, socratic, drill, other: Describe fully in own words:

E. Cooperating teacher:

F. Room temperature:

G. Weather:

H. Recorder's name:

II. Pre-taping - Situational Background

A. Relationship between student teacher and cooperating teacher

B. Student teacher's reaction to taping

C. Cooperating teacher's reaction to taping

D. General atmosphere of room

E. How interested, well-behaved children were under cooperating teacher vs. student teacher

F. Camera crew's arrival - late or early

G. Children's reaction to cameras

H. Student teacher and/or cooperating teacher's method of preparing class for taping.

I. Unusual situational stress

III. Taping

A. Does taping correspond with beginning of lesson?

B. Where is the cooperating teacher during taping?

If present, what is her role?

C. How many observers are there in the classroom during the taping and who are they?

1. Do they arrive after taping begins?

2. Do they leave before it ends?

D. Class behavior

1. Describe class behavior in general.

2. List any extraneous behavior - individual or group.

3. How did class respond to the lesson?

4. Did class seem to have been rehearsed for taping? (i.e How natural were they?)

E. Student teacher's behavior

1. Describe emotional state - composed, anxious, etc.

2. Comment on relationship between her and students.

3. Describe her teaching behavior.

F. Situational stress during filming and student teacher's response to them.

IV. How does class act when taping is over?

APPENDIX K

Instructions to Film Crew

FILMING PROCEDURES

Sample Memo To Filming Crew Attached to Filming Schedule

There are a few points, regarding our behavior at the schools that I would like to comment on.

1. Remember. . . you are "guests" in these schools. You may feel that you are an invited guest, but many teachers are not aware of your invitation. You may be treated as a welcome guest, but privately regarded as an intruder. Please help to maintain our pleasant relationship in the schools by taking the responsibility on yourself not to impose on their hospitality.

2. Occasionally we are invited to the teachers' lounge. This invitation is often made without realizing the duration of our stay. The teachers' lounge is the teachers' sanctuary where she can sit with her legs up and talk with her hair down. Let's keep it that way by staying out of the teachers' lounge.

3. Avoid at all cost assuming any portion of the teacher's role even when invited by the students. Remember that you are authorized only to make films. When students ask you for something or permission to do something, refer him to the proper authority--the teacher.

4. Do not initiate interaction with students in the classroom. When necessary to communicate, do it through the teacher.

5. Be careful about initiating interaction with teachers. That includes giving directions, asking directions or making small talk. There should be only one person in the classroom in charge of the filming. This makes communications easy for the teacher.

6. If you do not have duties in the classroom, stay out. If you do, complete your duties and exit as quickly and quietly as possible. The teacher is already nervous. Do not add to that anxiety by giving the appearance of an army of technicians descending upon her.

(continued)

7. Be as quiet and unobtrusive in the halls and on the grounds as possible. Talking, giving instructions and asking directions on the grounds is often distracting to classrooms other than the one in which you are working. Know your job; and do it as quietly as possible.

8. During the process of getting equipment in and out of the rooms, please avoid damage to trees, shrubs and flower beds. This adds up to overtime and damages not of our doing which will be eventually attributed to us unless you are conspicuously on the alert to protect the school property.

9. Be cooperative, supportive and cheerful with school personnel and your own partners. Even unspoken hostility has a way of making itself known and permeating the atmosphere. And worse, when teachers and students detect a loose, free-floating hostility in you, they don't know where it is directed and may suspect it is meant for them.

10. People who are not familiar with the subtleties of our relationship with the schools often feel that we are being overly careful. WE ARE! Remember--all that most teachers ever see of our project is us. Their regard for us will determine their attitude toward R&D in general and their willingness to cooperate in the future.

If the shoe doesn't fit, don't wear it. But, at least, slip it on and wiggle your toes before casting it off.

Also I would like to commend all of you for your part in a job that is well done. We are accomplishing a task that many thought unrealistic and we have done a good job of it.

APPENDIX L

Test Battery for Admission to Candidacy (Teacher Preparation Program, College of Education)

SELF-REPORT INVENTORY

Form R-3

Oliver H. Bown

THE UNIVERSITY OF TEXAS

Name .... Sex................
(Print) Last First Middle

Course and Section .... Date ....

After filling in the information requested above, please turn immediately to page 4 and read directions carefully.

This instrument was developed and refined under the auspices of the Mental Health in Teacher Education Demonstration-Research Project supported by the National Institute of Mental Health (Grant 2M-6635) and the University of Texas.

	Like me				Unlike me
	A	B	C	D	E
1. The way I get along with my friends is extremely important to me.	☐	☐	☐	☐	☐
2. I resist getting down to work and often have to drive myself to get it done.	☐	☐	☐	☐	☐
3. In their relationship with me, my parents were always basically kind, considerate and understanding.	☐	☐	☐	☐	☐
4. I really look forward to the time when I will be settled down to my life's work.	☐	☐	☐	☐	☐
5. I have almost always resented people who were in a position to tell me what to do.	☐	☐	☐	☐	☐
6. I'm very comfortable and happy when I am with children.	☐	☐	☐	☐	☐
7. I don't seem to have very much basic respect for myself.	☐	☐	☐	☐	☐
8. I live in accordance with the idea that "It is better to have loved and lost than never to have loved at all."	☐	☐	☐	☐	☐
9. In the past, I have usually avoided working any harder than was necessary to get by.	☐	☐	☐	☐	☐
10. I look forward to living and working with other people as an important and influential part of their lives.	☐	☐	☐	☐	☐
11. Very often I have envied other people who have had so much more fun with their parents than I.	☐	☐	☐	☐	☐
12. I feel confident that one day I'll be successfully engaged in what I'm really cut out to do.	☐	☐	☐	☐	☐
13. I feel uncomfortable and artificial in the presence of people who are a good deal older than I.	☐	☐	☐	☐	☐
14. It has always been easy for me to express affection toward young children.	☐	☐	☐	☐	☐
15. I feel sour and pessimistic about life in general.	☐	☐	☐	☐	☐
16. One thing I just can't stand is uncertainty.	☐	☐	☐	☐	☐
17. I used to wish very often that my parents and I could be much closer.	☐	☐	☐	☐	☐
18. I really dread the thought of finishing school and settling down to a lifetime of hard, steady work and increased responsibility for myself and others.	☐	☐	☐	☐	☐
19. I am able to relate to children quite easily, and this is very important to me.	☐	☐	☐	☐	☐
20. Thinking back, in a good many ways I don't think I have liked myself very well.	☐	☐	☐	☐	☐
21. One of the most important things to me about any job I hold in the future is having a good relationship with my boss.	☐	☐	☐	☐	☐
22. The idea of death has always made me feel uneasy, helpless and a little futile.	☐	☐	☐	☐	☐
23. I like people very much.	☐	☐	☐	☐	☐
24. I have always maintained a good healthy balance between work and play.	☐	☐	☐	☐	☐

S	O	C	A	W	R	P	H	T
___	___	___	___	___	___	___	___	___

	Like me				Unlike me
	A	B	C	D	E
25. Looking ahead a few years, I don't think that I will be the kind of person who would get much personal satisfaction out of teaching children of elementary school age.	☐	☐	☐	☐	☐
26. In almost every respect, I'm very glad to be the person I am.	☐	☐	☐	☐	☐
27. My parents and I may get along all right on the surface, but down deep I wonder if we even know each other.	☐	☐	☐	☐	☐
28. While I can't prove it, I'm willing to bet that I'm going to become a more and more happy and significant person.	☐	☐	☐	☐	☐
29. I do my work just to get it over with rather than because I get real satisfaction from doing it.	☐	☐	☐	☐	☐
30. I've always been fascinated with getting to know people whether they were good, bad, or indifferent.	☐	☐	☐	☐	☐
31. I have resented very much having to do things that were expected of me.	☐	☐	☐	☐	☐
32. I feel that satisfaction and dissatisfaction, joy and suffering, life and death are all meaningful parts of a process which I may not fully understand but by which I am deeply moved.	☐	☐	☐	☐	☐
33. When I think about the kind of person that I have been in the past, it doesn't make me feel very happy or proud.	☐	☐	☐	☐	☐
34. I really enjoy getting to know people who are in positions of authority.	☐	☐	☐	☐	☐
35. I used to regard young children as a pain in the neck.	☐	☐	☐	☐	☐
36. I'm quite consistent in tackling the work I need to do rather than putting it off until the last minute.	☐	☐	☐	☐	☐
37. The fact that the people whom I love most will someday die will always seem to me to be cruel and unfair.	☐	☐	☐	☐	☐
38. People have not been as important to me as they are to most others in determining how satisfied and secure I have felt.	☐	☐	☐	☐	☐
39. I feel confident that in the really important ways, I will be a good parent.	☐	☐	☐	☐	☐
40. Doing a good job in anything that I undertake is very important to my sense of well-being.	☐	☐	☐	☐	☐
41. My parents and I have a great deal of mutual respect, faith, and confidence in one another.	☐	☐	☐	☐	☐
42. I'd give a good deal to be very different than I am.	☐	☐	☐	☐	☐
43. I think I will always have close, rich, full relationships with a good many people.	☐	☐	☐	☐	☐
44. I suppose there will always be someone to whom I will be responsible in one way or another, but I don't expect that I will ever like it.	☐	☐	☐	☐	☐
45. I have always been very fond of younger children.	☐	☐	☐	☐	☐
46. I am very happy with my present relationship with my parents.	☐	☐	☐	☐	☐
47. I don't really expect that I will ever be close friends with many people my own age.	☐	☐	☐	☐	☐
48. The sheer joy of being alive has often been a compelling force in my life.	☐	☐	☐	☐	☐

DIRECTIONS

Please print your name and provide the other information requested on the cover of this booklet.

On pages 2 and 3, there are forty-eight statements which express various ideas, feelings, and reactions. You are asked to rate each statement in accordance with how well it expresses your own thoughts or feelings. There are no right or wrong answers. The usefulness of the instrument depends entirely on the extent to which you indicate *how you actually think or feel* rather than how you would *like* to feel or how you think you *should* feel. This inventory is being administered for research purposes, and your individual responses will be held in strict confidence.

Please record your rating of each item by placing an X in one of the boxes following each statement. There are five alternative responses indicating the extent to which the statement expresses what you actually think or feel:

The statement expresses:

A. Exactly what I think or feel *or* what I think or feel almost all the time.

B. Primarily what I think or feel *or* what I think or feel most of the time.

C. Something about which I do not particularly think or feel one way or the other *or* something I think or feel about half the time.

D. Something which is almost the opposite of what I think or feel *or* something which I think or feel very seldom.

E. Exactly what I *do not* think or feel *or* what I think or feel almost never.

Please work rapidly and use your first impression as a basis for your response. *Do not omit any item.*

CONFIDENTIAL

R & D CENTER Form ACF 69
College of Education

APPLICATION FOR ADMISSION TO CANDIDACY

Name: Mr. / Mrs. / Miss ____________________ Sex: M F
Last First Middle (Maiden)

Soc. Sec. No.: ___ ___ ___ - ___ ___ - ___ ___ ___ ___ Date: __________

Campus Address: ____________________ Phone: __________

Home Address: ____________________
Street City State Zip

Applying for Admission: 19___ Fall Spring Summer (Circle one)

College of Enrollment:
___Arts & Sciences
___Education
___Business Administration
___Fine Arts
___Communication
___Graduate School

Semester and Year of last previous College enrollment? __________

Have you changed colleges since this last registration, if yes, from where? ____________________

Complete 1, 2, or 3 below:

1. a. Elementary Education? _______ Concentration: __________
   b. Special Education? _______ Area: __________
2. Secondary Education? _______
   Teaching Area 1: ____________________
   Teaching Area 2: ____________________
3. All Level Education? _______ Area: __________

CONFIDENTIAL

R & D Center Form DI 69

DIRECTED IMAGINATION

NAME: ______________________________

Soc. Sec. No.: ☐☐☐-☐☐-☐☐☐☐ Date: __________

Write four fictional stories about teachers and their experiences. You will be given four minutes for each story.

CONFIDENTIAL

R & D Center Form OWSC62

ONE WORD SENTENCE COMPLETION

Veldman-Menaker-Peck Form 62

Name: ______________________________ Sex: M F

Soc. Sec. No.: ☐☐☐-☐☐-☐☐☐☐ Date: ______________

Use only ONE word to complete each sentence.

1. I enjoy ______________ very much.
2. Children need ______________.
3. My work has been considered ______________.
4. I feel ______________ in a crowd.
5. Most men are ______________.
6. I ______________ feel depressed.
7. Wild animals are ______________.
8. I like ______________ people.
9. The key to good teaching is ______________.
10. I am afraid of ______________.
11. Children usually ______________ me.
12. I work hardest for ______________.
13. Most adolescents are ______________.
14. I try to avoid ______________.
15. My father thinks I am ______________.
16. I feel ______________ in the dark.
17. Most people my age are ______________.
18. I hate ______________.
19. My health has been ______________.

GO ON TO PAGE 2

20. It would be ______________________________ to give me authority.

21. I usually ______________________________ my emotions.

22. My mind is ______________________________.

23. I depend on my ______________________________ when I need help.

24. Someday I hope to be ______________________________.

25. I ______________________________ feel tired.

26. My father is ______________________________.

27. I ______________________________ difficult problems.

28. My life has been ______________________________.

29. I dislike ______________________________ people.

30. Teachers should ______________________________ their students.

31. Most women are ______________________________.

32. I ______________________________ get angry.

33. My ______________________________ is very important to me.

34. I ______________________________ close supervision.

35. Most children are ______________________________.

36. I ______________________________ myself.

37. Students reject ______________________________ teachers.

38. I take ______________________________ risks.

39. Other people ______________________________ me.

40. I never ______________________________ to get what I want.

41. As a teacher I would be ______________________________.

42. I ______________________________ being by myself.

43. My mother thinks I am ______________________________.

44. I am easily ______________________________.

45. A teaching career would be ______________________________ for me.

46. My body is ______________________________.

GO ON TO PAGE 3

47. I ______________________________ those in authority.

48. Few people know that I am ______________________________.

49. I don't get enough ______________________________.

50. My best quality is my ______________________________.

51. I ______________________________ when put under pressure.

52. Most adults are ______________________________.

53. I usually feel ______________________________.

54. Students prefer ______________________________ teachers.

55. I have ______________________________ friends.

56. My mother is ______________________________.

57. I don't like to think about ______________________________.

58. Most teachers are ______________________________.

59. I wish I were ______________________________.

60. My problems are ______________________________.

61. Other people think I am ______________________________.

62. My future looks ______________________________.

CONFIDENTIAL

R & D Center Form AIF69
College of Education

AUTOBIOGRAPHICAL INFORMATION

Name:______________________________ Sex:__________

Soc. Sec. No.: ☐☐☐-☐☐-☐☐☐☐ Date:__________

Campus Address: ______________________ Phone:__________

Home Address: ____________________________________
Street City State Zip

Applying for Admission: 19___ Fall Spring Summer (circle one)

College:____________________________________

Age:__________ Weight:__________ Height:__________

Distinguishing Characteristics: ______________________

____

Accidents, operations, or illnesses and present state of health (Include minor disorders if chronic, physical handicaps, nervous disorders, and hospitalizations):

____

____

____

Present Marital Status: ___Single ___Engaged ___Married ___Other

Marital history with dates: ______________________

____

Spouse or Fiance's Name: ______________________

Age:__________ Education:__________________

Occupational History:______________________

____

Special Interests:______________________

____

GO ON TO PAGE 2

Your Children (Names and Ages): ____________________

____

____

*Father's Name: ____________________ Age: __________

Address: ____________________
Street City State Zip

Education: ____________________

Occupational History: ____________________

____

Special Interests: ____________________

____

*Mothers Name: ____________________ Age: __________

Address: ____________________
Street City State Zip

Education: ____________________

Occupational History: ____________________

____

Special Interests: ____________________

____

*If deceased, give date of death for "age." If step-parent, write "step" before father or mother.

Have any members of your family ever taught? Which ones? How has this influenced your choice of teaching as a career?

____

____

____

____

____

GO ON TO PAGE 3

Brothers and Sisters:

Sex	Age	Education	Occupation
M F			
M F			
M F			
M F			
M F			
M F			
M F			
M F			
M F			

Work Experiences:

(Include volunteer and part-time jobs. Begin with your present position, if any.)

Dates: ______________________ Nature of Work: ______________________

What liked: ______________________ What disliked: ______________________

______________________ ______________________

Dates: ______________________ Nature of Work: ______________________

What liked: ______________________ What disliked: ______________________

______________________ ______________________

Dates: ______________________ Nature of Work: ______________________

What liked: ______________________ What disliked: ______________________

______________________ ______________________

Dates: ______________________ Nature of Work: ______________________

What liked: ______________________ What disliked: ______________________

______________________ ______________________

GO ON TO PAGE 4

High School Experience

____
Name of School City State

Grade Average: __________ Honors: __________

Size of Graduating Class: ______ Your Rank in Class: __________

Extracurricular Activities and Offices Held: __________

____

____

Favorite Subject(s): __________

Why? __________

Least Liked Subject(s): __________

Why? __________

Describe the most important positive and negative aspects of your high school experiences:

____

____

____

College Experience (Other than the University of Texas):

Dates	School	Reason for Leaving

Grade Average at U.T.: __________ (4 point system)

Extracurricular Interests, Activities, and Offices Held:

____

____

____

GO ON TO PAGE 5

Future Plans (Marriage, work, and other areas)

Self Assessment:

What do you consider to be your greatest strengths as a person? How might these relate to your effectiveness as a teacher?

What do you consider to be your greatest limitations as a person? How might these relate to your effectiveness as a teacher?

ADJECTIVE SELF DESCRIPTION (VELDMAN-PARKER FORM B)

Name (Please print) Last First Middle

Course No. Section No.

Print today's date in the boxes provided, then blacken the matching number boxes below.

MONTH		DAY		YEAR	
0 1	0 1 2 3 4 5 6 7 8 9	0 1 2 3	0 1 2 3 4 5 6 7 8 9	6 7	0 1 2 3 4 5 6 7 8 9

SEX

Male ☐

Female ☐

SOCIAL SECURITY NUMBER

0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9

USE NO. 2 PENCIL ONLY

Mark one of the five blocks after each of the following descriptive words to represent how well each one describes you. Try to describe yourself as you really are -- not necessarily as you would like to be.

	NO				YES
	1	2	3	4	5
1. anxious	☐	☐	☐	☐	☐
2. charming	☐	☐	☐	☐	☐
3. cheerful	☐	☐	☐	☐	☐
4. clever	☐	☐	☐	☐	☐
5. complicated	☐	☐	☐	☐	☐
6. efficient	☐	☐	☐	☐	☐
7. emotional	☐	☐	☐	☐	☐
8. foolish	☐	☐	☐	☐	☐
9. gentle	☐	☐	☐	☐	☐
10. good-looking	☐	☐	☐	☐	☐
11. good-natured	☐	☐	☐	☐	☐
12. handsome	☐	☐	☐	☐	☐
13. idealistic	☐	☐	☐	☐	☐
14. impulsive	☐	☐	☐	☐	☐
15. indifferent	☐	☐	☐	☐	☐
16. individualistic	☐	☐	☐	☐	☐
17. industrious	☐	☐	☐	☐	☐
18. insightful	☐	☐	☐	☐	☐
19. irresponsible	☐	☐	☐	☐	☐
20. kind	☐	☐	☐	☐	☐
21. lazy	☐	☐	☐	☐	☐
22. loud	☐	☐	☐	☐	☐
23. moody	☐	☐	☐	☐	☐
24. nervous	☐	☐	☐	☐	☐
25. obnoxious	☐	☐	☐	☐	☐
26. organized	☐	☐	☐	☐	☐
27. outgoing	☐	☐	☐	☐	☐
28. pleasant	☐	☐	☐	☐	☐
29. polished	☐	☐	☐	☐	☐
30. practical	☐	☐	☐	☐	☐
31. precise	☐	☐	☐	☐	☐
32. quiet	☐	☐	☐	☐	☐
33. reckless	☐	☐	☐	☐	☐
34. reflective	☐	☐	☐	☐	☐
35. reserved	☐	☐	☐	☐	☐
36. rude	☐	☐	☐	☐	☐
37. sexy	☐	☐	☐	☐	☐
38. shallow	☐	☐	☐	☐	☐
39. sharp-witted	☐	☐	☐	☐	☐
40. shy	☐	☐	☐	☐	☐
41. silent	☐	☐	☐	☐	☐
42. soft-hearted	☐	☐	☐	☐	☐
43. sophisticated	☐	☐	☐	☐	☐
44. spontaneous	☐	☐	☐	☐	☐
45. stable	☐	☐	☐	☐	☐
46. steady	☐	☐	☐	☐	☐
47. sympathetic	☐	☐	☐	☐	☐
48. talkative	☐	☐	☐	☐	☐
49. temperamental	☐	☐	☐	☐	☐
50. tense	☐	☐	☐	☐	☐
51. thorough	☐	☐	☐	☐	☐
52. timid	☐	☐	☐	☐	☐
53. touchy	☐	☐	☐	☐	☐
54. unconventional	☐	☐	☐	☐	☐
55. warm	☐	☐	☐	☐	☐
56. worrying	☐	☐	☐	☐	☐

OPTICAL SCANNING FORMS® OPTICAL SCANNING CORPORATION ® NEWTOWN, PA. 18940

UTILITY FORM 4568

APPENDIX M

Follow-Up Interview Forms

RATING SCALE FOR TELEPHONE FOLLOW-UP INTERVIEWS

FOR TEACHERS

Instructions: Check the blank appropriate to the interviewees response. Check only one in each category. If more than one is appropriate, check the most appropriate one and circle the number of the other(s) accompanied by your written explanation thereof. Include all supplementary comments made by interviewee. Be as inclusive as possible! Fill in the blanks where called for. Be certain to differentiate between what interviewee said and your feelings about what she said: yours go into "Interpretations".

1 Present occupation

___1. Teaching full-time______________________________

___2. Substitute teaching______________________________

___3. Not teaching______________________________

Comments:

2. Current school in which she is teaching - has taught.

1. (Name and location)______________________________
2. (Size)______________________________
3. (Grade levels in the school)______________________________
4. (School's budget)______________________________
5. (Her salary)______________________________
6. (Psychological services?)______________________________

Comments:

3. Current class she's teaching - has taught

1. (Class size)______________________________
2. (Grade)______________________________
3. (Pupils achievement level)______________________________

4. (Subjects taught or not taught)____________________________________
(specify)

5. (Economic level and occupations of parents)__________________________

____

Comments:

4. Most helpful person(s) in current school - past school

___1. principal

___2. other teachers

___3. counselor

___4. other__________________

Comments:

5. Ideal school

A. In terms of socio-economic status of pupils

___1. upper

___2. middle

___3. low

B. In terms of children's motivational level

___1. high

___2. average

___3. low

C. In terms of school's setting

___1. better physical facilities (audio-visual, library, etc.)

___2. special teachers (for music, P.E., art, etc.)

___3. harmony of co-workers and/or principal (circle one)

Comments:

6. Feeling prepared to teach following graduation

___ 1. Felt very prepared

___ 2. Mixed - yes in some ways, no in others

___ 3. Not at all prepared

Comments:

7. Attributes 6. (above) to:

___ 1. University courses

___ 2. Observation and/or student teaching

___ 3. Other ______________

Comments:

8. Attitude toward cooperating teacher

___ 1. Positive

___ 2. Neutral

___ 3. Negative

Comments:

9. Attitude toward student teaching supervisor

___ 1. Positive

___ 2. Neutral

___ 3. Negative

Comments:

10. Attitude toward principal and school (student teaching)

___ 1. Positive

___ 2. Neutral

___ 3. Negative

___ 4. No contact with principal

Comments:

11. Attitude toward research program

___ 1. Positive

___ 2. Neutral - mixed

___ 3. Negative

Comments:

12. Reaction to psychological testing

___ 1. Positive

___ 2. Neutral

___ 3. Negative

Comments: (include her reaction to feedback or ommission thereof)

13. Reaction to filming

___ 1. Positive

___ 2. Neutral

___ 3. Negative

Comments: (include her reaction to feedback or ommission thereof)

14. Attitude toward future psychological testing

___ 1. Positive

___ 2. Negative

Comments:

15. Attitude toward future filming

___ 1. Positive

___ 2. Negative

Comments:

16. Reaction to psychological counseling (if applicable)

___ 1. Positive

___ 2. Neutral

___ 3. Negative

Comments

17. Opinions on education courses

___ 1. Methods courses helped

___ 2. Methods courses did not help

___ 3. Subject matter courses helped

___ 4. Subject matter courses did not help

Comments:

18. Attitude toward education courses

___ 1. Positive

___ 2. Mixed, neutral

___ 3. Negative

Comments:

19. Types of personal changes since graduating

___ 1. Attitudes (in relation to teaching, e.g. professionalism)

___ 2. Growth (e.g. maturity, responsibility)

___ 3. Life style (marriage, financial independence)

Comments: (specify the above)

20. Amount of personal changes since graduating

___ 1. A great deal

___ 2. Moderate

___ 3. None

Comments:

21. Found different than expected when beginning to teach

___ 1. Nothing

✓ 2. Specify: (e.g. personal feelings: uncomfortable, confident; classroom problems: discipline, organization; subject matter: music, art)

Comments:

22. Unique contribution to the profession

___ 1. Businesslike, professional contributions, especially to other teachers

___ 2. Stimulating, to parents and/or children

___ 3. Warm, positive; especially to the children, concerned with their emotional growth as well as (or almost to the exclusion of) their intellectual growth.

___ 4. Innovations - specify:

Comments:

23. Education since graduation

___ 1. Has taken more college courses

___ 2. In-service, institute, or other professional courses

___ 3. None

Comments:

24. Future educational plans

___ 1. Plans to (or is in the process of) work toward a Master's Degree

___ 2. In-service courses, summer institutes, and so forth

___ 3. None

Comments:

25. Future Teaching plans

___ 1. Definite - plans to teach always with exception of having children. Will return to classroom as soon as children are in school.

___ 2. Will stop permanently sometime in near future.

___ 3. Will teach at a different level (e.g. switch from elementary to secondary, to junior college, etc.)

Comments:

26. Other comments and suggestions on Teacher preparation.

27. Interviewer's Interpretations.

FOLLOW-UP INTERVIEW QUESTIONS

1. What experiences in college made a difference in getting your present job? Just how did you "happen" to get this particular job?

2. Now that you are a regular teacher, in what ways do you feel prepared and unprepared and what college courses are responsible? Explore her estimate of effect of supervisor, school, cooperating teacher, principal, particular class, university courses. Do you have now or have you had a student teacher?

3. Thinking of yourself as you are now and of yourself as you were when you left college, are there basic, important differences? What are they and what was the most important in producing the change? (Major impact since college). What unique personal contribution are you making as a teacher? What do you now consider the characteristics of an ideal school situation and the opposite?

4. In the present situation, whom do you find most helpful? What person do you tell how things really seem to you? What psychological services does the school have?

5. What are your long range plans for the future? What do you hope to be doing five or ten years from now?

6. What do you find very different from what you expected?

7. Are you continuing your formal education? What do you consider your professional needs? Would you be willing to come to the University for further interviews or would you prefer someone come to you? Would you like, and would the school permit, filming your class?

8. Do you have any other comments, suggestions or opinions about your preparation or your present situation to add to what you've just said (We'd like this to be as inclusive or representative as possible).

9. Thank her sincerely and generously.

GENERAL INFORMATION

	GRADE LEVEL	CLASS SIZE	SUBJECT	PUPIL ACHIEV. LEVEL HIGH, AVE., LOW	ECONOMIC LEVEL OF PARENTS HIGH, AVE., LOW	MOST FREQUENT OCCUPATIONS OF PARENTS
1.						
2.						
3.						
4.						
5.						
6.						

GRADE LEVEL OF SCHOOL

SIZE OF SCHOOL

SCHOOL BUDGET

SALARY LEVELS